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ABSTRACT

Cross age tutoring is the subject of this document. In this teaching method, secondary school students tutor elementary students in basic skills. The goal is to enhance the learning and motivation of the tutors, in contrast to the practice in which the learning of the tutee is the primary focus. This document, one of a series of seven on this topic, gives a listing and explanation of decisions that must be made at each school site when such a tutoring project is started. Pros and cons for each decision are presented for discussion. A step-by-step outline of evaluation activities is included. A planning summary sheet is appended as well as resources for evaluation and a brief bibliography for further reading. (JD)

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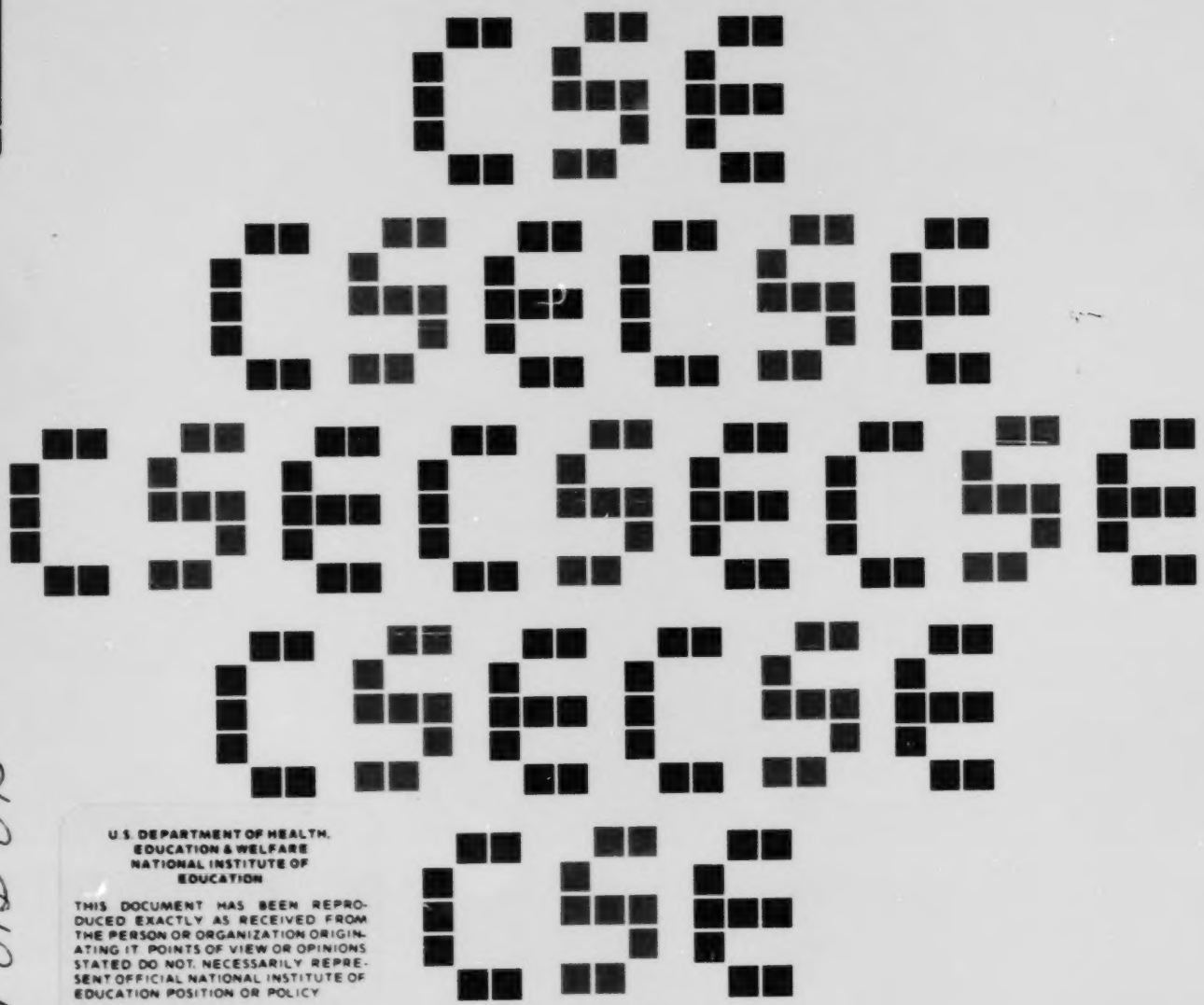

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CSE Report on Tutoring #1:
Setting Up and Evaluating Tutoring Projects

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November 1977

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PREFACE

The National Institute of Education (NIE) is the agency of the Federal government that is specifically funded to conduct research in education. When the Education Amendments of 1974 were enacted, NIE was directed to prepare studies of compensatory education in order to assist Congress in making decisions regarding the future of efforts to improve the education of disadvantaged youth. The studies were mandated with a view to the reauthorization deliberations for Title I of the Elementary and Secondary Education Act (ESEA), scheduled to take place in 1977.

In connection with these studies, contracts were let for surveys of existing compensatory education programs, analyses of existing data on program effectiveness, research into the implications of alternative criteria for fund-allocations, and research on the administration of compensatory education. In addition, NIE requested "a systematic and interdisciplinary effort to explore alternatives to current practices in education." Four contracts were let for "Alternative Designs to Contrast with Current Practice in Compensatory Education." Each contractor was to produce "a plan of action which is deemed superior to current practice and not prohibitive in cost of implementation."

One of the contracts went to the Center for the Study of Evaluation for a proposal concerned with cross-age tutoring as a means of enhancing the learning and motivation of the tutors (in contrast to current practice in which the learning of the tutee is the primary focus).

An interdisciplinary committee of ten persons was established to meet regularly at UCLA. In addition to working with this committee, project staff undertook to develop an examination of current school practice by means of site visits and detailed questionnaires in schools conducting cross-age tutoring projects. Because the persons who ultimately implement innovations are the instructional staff, it was important to obtain their reactions to the proposed projects. Presentations were made at faculty meetings in inner city schools, followed up with questionnaires, and a small conference was held at which it was possible to obtain more detailed feedback.

Following these activities, an interim report was submitted to nine reviewers selected by NIE. Committee members and reviewers subsequently met together for two days of round-table discussions.

The production of a single final report would have been an inappropriate way of presenting the body of information that project staff had at hand following these activities. For example, much information that would be of interest to teachers and parents planning or running tutoring projects would not be of interest to policy makers and vice versa. Furthermore, although the position had been reached that one particular kind of tutoring project--the Learning-Tutoring Cycle (LTC)--should be recommended for widespread implementation in Title I projects, there was much to be said about the planning of tutoring projects in general and about highly innovative projects which, although not as immediately feasible as the Learning-Tutoring Cycle, could have greater impact if implemented.

In view of this need to speak to various audiences about diverse topics such as theories, research, policy, practical planning and innovative ideas, seven separately bound volumes were prepared: The CSE Reports on Tutoring.

Report A. The Learning-Tutoring Cycle: Overview

Report #1 Setting up and Evaluating Tutoring Projects

Report #2 Tutoring and ESEA Title I

Report #3 A Survey of Tutoring Projects

Report #4 Tutoring: Some New Ideas

Report #5 An Analysis of the Literature on Cross-Age Tutoring

Report #6 Tutoring and Social Psychology: A Theoretical Analysis

These seven reports provide an information base and a rationale for actions at both federal and local levels.

At the local level, the six numbered reports represent a resource for project planning. Three reports--the Survey (#3), the Literature report (#5), and the Social Psychology report (#6)--bring together information from a wide range of sources to provide background knowledge concerning current practice, the perceptions and recommendations of practitioners, past projects, research, and relevant theories.

This background knowledge can inform the design of tutoring projects as well as provide a basis for judging the likelihood of success of such projects. For example, the Social Psychology report demonstrates that many of the effects of tutoring widely noted by practitioners, but not yet established by research on tutoring, have their parallel in recognized effects in the field of Social Psychology. Social-Psychological theories thus suggest variables that can be assessed in research on tutoring and lend support to the perceptions of practitioners.

The three other numbered reports apply the background information to practical school planning concerns. Report #1, through a presentation of step-by-step planning questions, deals with the process of setting up and evaluating tutoring projects in general. Report #2 introduces the ESEA Title I legislation and considers the planning steps, as per Report #1, in relation to the design of an LTC project in conformity with Title I regulations. Report #4 deals with extensions of the idea of learning by tutoring to more ambitious projects, representing more substantial changes in schooling than are involved in the LTC project. Report #4 also documents the reactions of instructional staff and some Title I parents to the Learning-Tutoring Cycle and other proposed kinds of projects.

For the national level, Report A provides an overview of the project and recommendations for action. The actions recommended are designed to put the ideas of this study to the test, to see if the Learning-Tutoring Cycle can indeed significantly improve the educational attainment of disadvantaged students.

ACKNOWLEDGEMENTS

This study has benefitted immeasurably from the thoughtful contributions of many individuals. Members of the committee represented diverse backgrounds and professional experiences, and their deliberations were invariably stimulating and challenging.

Members of the Committee

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We were fortunate in having two ex-officio members of the committee who attended meetings because of their long-standing interest in Tutoring: Elbert Ebersole, formerly Principal, Soto Street Elementary School and now a developer of materials for cross-age tutoring in reading; and Arthur Elliott, a professor on sabbatical leave from Simon Fraser University, Canada. Their contributions were of great value to the project staff and to the committee.

The round table discussions with members of the NIE review team and the receipt of their carefully considered written comments on the interim report led to significant shifts of emphasis in the project, and the author is most grateful for their substantial and thoughtful comments.

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Richard Mallory of the National Education Association was so kind as to comment extensively and most helpfully on a draft report. The incredible efficiency of Donna Anderson Cuvelier and her great interest in the project provided indispensable daily support. For contributions and guidance throughout the study, the author thanks most particularly Harry F. Silberman and Jack Schwille.

CHAPTER I. WHY YOU MIGHT BE INTERESTED IN SETTING UP TUTORING PROJECTS

[If you are past the point of wondering whether to set up a tutoring project, and definitely planning to do so, then you might skip this chapter.]

Cross-age tutoring is something very different from ordinary schooling. The activity of students teaching each other instead of receiving instruction from a teacher represents a dramatic change in the classroom. Of course, within their own classes many teachers occasionally ask some students to help other students; but to have older students regularly trained and assigned to tutor younger students, to set aside time for this activity, and to provide space and other resources--all this requires a good deal of planning and effort. Why is such "cross-age" tutoring becoming increasingly popular?

Judging by what school persons write and say, it appears that tutoring is perceived as bringing a wide variety of benefits. Furthermore, the perceived benefits include important areas of concern: student achievement and student enjoyment of school. Below are some of the benefits anticipated from having older students teach younger students:

Achievement

- Tutors learn by teaching.
- Tutees learn from individual instruction.
- Teachers, partially released from providing instruction, can finally make individualization work. They can devote time to diagnosis and prescription or to working with problem students.
- Tutors and tutees practice the basic skill of oral communication. Tutors, in particular, learn to explain ideas.
- Older students who need to work on fundamentals of reading or arithmetic can do so as tutors without embarrassment at working far below grade level--"the face-saving effect."

Attitudes

- Tutors and tutees enjoy tutoring.

- Tutors develop empathy for teachers.
- Tutors develop concern for younger students.
- Tutors become interested in being teachers.
- Tutors and tutees of different ethnic groups learn to like each other by working together.
- Tutors increase in self-esteem.
- Teachers' attitudes to students often change positively as they see them acting responsibly as tutors.

Behavior

- Tutors attend school more regularly.
- Tutors and tutees work harder than in the regular classroom situation.
- Discipline problems are greatly reduced.
- Tutors act maturely as they feel an obligation to younger tutees--"the role-model effect."

Social Learning

- Tutors learn to accept responsibility.
- Tutors learn to exercise authority.
- Tutors learn to organize lessons and materials.
- Tutors learn the value of promptness.
- Tutors and tutees learn interpersonal skills.
- Tutors learn to listen to and counsel tutees.
- Tutors may learn to communicate with parents.
- Tutees learn that an older student cares for them.
- Tutees look up to older students as role models.

You may or may not believe that all these benefits can result from a cross-age tutoring project and, indeed, it seems reasonable to expect that <u>how</u> a project is run will affect the kinds of benefits it produces. Chapter II describes three kinds of projects that, by their design, are likely to have different kinds of effects.

CHAPTER II. THREE KINDS OF TUTORING PROJECTS

While it is probably true that any kind of successful tutoring project benefits three groups--teachers, tutors and tutees--projects can nevertheless be roughly classified into three types depending upon which group is the primary focus for the project.

The key to identifying the primary focus of a tutoring project is the selection of the tutor's task. If, in your project, tutors are to help teachers each day in a variety of ways, this is a teacher-focused project and will be called a Teacher Aide project. If the tutors are to teach tutees each day, selecting what is to be taught on the basis of the tutee's diagnosed needs, this is a tutee-focused project in which the tutors are providing a service. This will be called a Tutorial Service project. If the tutors are to teach work that is selected because the tutors need to practice and master it, then the focus is on tutors, and the project will be called a Learning-by-Tutoring project.

In making the above distinctions, particularly the distinction between Tutorial Service and Learning-by-Tutoring projects, cognitive learning has been emphasized. Non-cognitive benefits such as enjoyment or self-respect may occur equally in all projects. Such benefits are of course enormously important, but they are also very difficult to define, plan for or measure. Consequently, there is a focus in this report on cognitive learning.

Before looking at the kinds of projects that have been run focusing on benefits to each of the three groups, perhaps a word should be said about the idea of running projects for the benefit of teachers. It may be felt that schools should serve students, not teachers, so that programs planned explicitly for the benefit of teachers are unlikely or improper. However, a project that aims to help teachers so that they can more effectively help their students is clearly benefiting students, via the route of helping the teacher. There should be no embarrassment about projects that are designed primarily to benefit teachers.

1. Teacher Aide projects

These projects are teacher-focused. Older students work, usually one or two at a time, in the classrooms of younger students. The older students do whatever is needed to assist the receiving teacher.* They may put up bulletin boards, grade papers, take children to the library, run small group lessons or tutor individual children; but they undertake these activities at the behest of the teacher, to fit in with the teacher's schedule in the room that day. The teacher aides (sometimes called cross-age tutors though they are not exclusively tutors) are typically students with good school records who volunteer for the program.

There are many small scale Teacher Aide projects. In one secondary school which sent a few students as aides each quarter to a nearby elementary school, a clerk acted as coordinator. In contrast, in the Clovis School District in Fresno County, California, Superintendent Floyd Buchanan's belief that students can be great teachers, provided the stimulus and support for development of an extensive system, involving the placement of approximately 450 secondary school students per semester in elementary schools where they teach for one or two periods per day. The system is run like a job training and placement system: elementary teachers request tutors for various jobs; tutors sign up for the jobs that they think they will like and are then trained for that job prior to service. This growing Teacher Aide project is run by a full-time coordinator, Paul Durando.

2. Tutorial Service projects

These projects are tutee-focused. Older students provide individual tutoring for tutees referred to them. Typically tutees leave their classrooms to receive tutoring.

In the High Intensity Tutoring (HIT) project in Michigan, for example, there is a reading center and a math center, each stocked with highly structured materials and staffed by a certified teacher and two paraprofessionals. Seventh and eighth graders provide sixth and seventh grade tutees with daily drill and programmed instruction.

*Two terms will be frequenty used: the "receiving teacher" is the teacher of the tutees; the "sending teacher" is the teacher of the tutors.

In Chino, California, a busload of junior high students daily spend a period at a nearby elementary school. Spread out along the tables of the "cafetorium" and supervised by their own junior high teacher, students tutor children sent in by various elementary teachers. Tutees sometimes arrive with an assignment from the receiving teachers, but tutors must also have lessons ready for use. Tutors stay at their junior high school 2 days a week preparing lessons and discussing problems with their supervising teacher. This is a service class--a very popular one--taken as an elective by the junior high students.

Serrano Junior High School, in the Ontario-Montclair School District, California, buses secondary school students to an elementary school where tutees, matched to tutors on the basis of personality, are pulled out of classes to be tutored at various convenient locations--the lunch benches, cafeteria, on the bus, in the corridor, etc. The secondary supervisor (the sending teacher) circulates constantly to solve problems, ensure coordination and smooth functioning. Emphasis is placed on the helping relationship between the older and younger child. The older children spend 2 days a week preparing lessons and discussing problems with their supervising teacher. Pre-service training aims to encourage emphathy through discussions of why children fail and how they feel in various situations.

One kind of tutorial service that has been highly developed and fairly rigorously evaluated is the programmed tutoring approach. In programmed tutoring the tutor can be seen as replacing a computer or a learning machine. The tutors are trained to enact a "program" that specifies the cues, responses and the step-by-step procedures by which the tutor guides the tutee through a set of learning experiences. These programmed tutorial services have been developed for beginning reading (Ellson, 1968; Harrison, 1972) and for beginning math (Ronshausen, 1975) and are generally markedly effective in promoting tutee achievement--as one would expect since the programmed procedures have been constantly revised to ensure effectiveness. This kind of Tutorial Service project, however, usually employs paid paraprofessionals or community volunteers, although both Harrison and Ronshausen have used older students as tutors in some projects.

3. Learning-by-Tutoring projects

[Note, by the way, the term Learning-by-Tutoring, not learning by teaching. A project run by Louis Schell at the University of California at Berkeley did have older students actually conduct classes, but this report is concerned with one-to-one tutoring, quite a different activity from teaching.]

These projects are tutor-focused--or would be if they existed. Almost invariably those who run or observe tutoring projects are struck by the impact that the role of tutor has on the students who tutor. Increased responsibility and motivation are noted as well as frequently dramatic achievement gains. Rarely, however, are tutoring projects planned primarily to capitalize on this dramatic impact. A few experimental studies have confirmed the benefits for tutors (Mohan, 1972; Allen & Feldman, 1973; Fitz-Gibbon, 1975), but as yet there are very few practical school programs developed explicitly from this idea.

A school project that did fit the Learning-by-Tutoring model somewhat was Hoffmeister's remedial reading project in which a low-achieving ninth grade class was trained to tutor a seventh grade class in reading (Hoffmeister, 1973). However, once trained, tutors generally were supposed to decide what to teach on the basis of a diagnosis of the tutee's need. In a project run for tutors, the content to be taught would constantly be selected according to the tutor's need to learn it. Tutees would then be sought to whom the content could be appropriately taught.

A number of within-elementary-school projects, in which a whole class of upper-grade students is combined with a lower grade class for daily tutoring (Ebersole, 1972; Newmark & Melaragno, 1969), have been somewhat in the vein of Learning-by-Tutoring. In Ebersole's reading projects, first developed at Soto Street Elementary School in the Los Angeles "barrio," tutors apply a structured procedure that includes listening to tutees read, recording words missed, and reviewing these words in subsequent tutorial sessions until they are learned. Since reading develops reading skills, both tutors and tutees benefit from this daily reading practice.

Of course, hard and fast distinctions can rarely be made in the complexity of real life situations, and many actual projects are difficult to classify. The High Intensity Tutoring project, for example, deliberately assigns low-achieving students as tutors in the expectation that they too will benefit. Perhaps the major focus of a project is made most apparent in two ways: by considering how the content to be taught is selected and by considering how situations of conflict are resolved.

Content selection

If the content to be taught is selected on the basis of tutee needs, then tutors may or may not benefit cognitively from tutoring. For example, an algebra student teaching multiplication tables will learn about children, about teaching, about responsibility and caring, but cannot be expected to learn algebra from time spent tutoring. If some algebra students happen to be weak on multiplication tables, however, they may benefit cognitively. The situation is less clear in subjects like reading that are less hierarchical than math but even there, maximum impact on the cognitive achievement of tutors can only be expected if the content is chosen to meet their needs.

Conflicts

Even though a project may emphasize benefits to tutors, the focus sometimes becomes apparent when tutors are dropped for unsatisfactory work or when a screening system excludes any students who are seen as risks. The need for careful selection of students who are to be aides is frequently stressed and shows the emphasis to be clearly on the provision of trouble-free assistance to teachers. Certainly volunteer tutors, carefully selected, enjoy such programs and probably derive many benefits from the experience. Thus such programs are eminently justifiable. They are not, however, run primarily for tutors.

In Figure 1, the procedures followed in each of the three kinds of projects are shown in order to illustrate that a different focus--teacher, tutee or tutor--requires a different planning procedure.

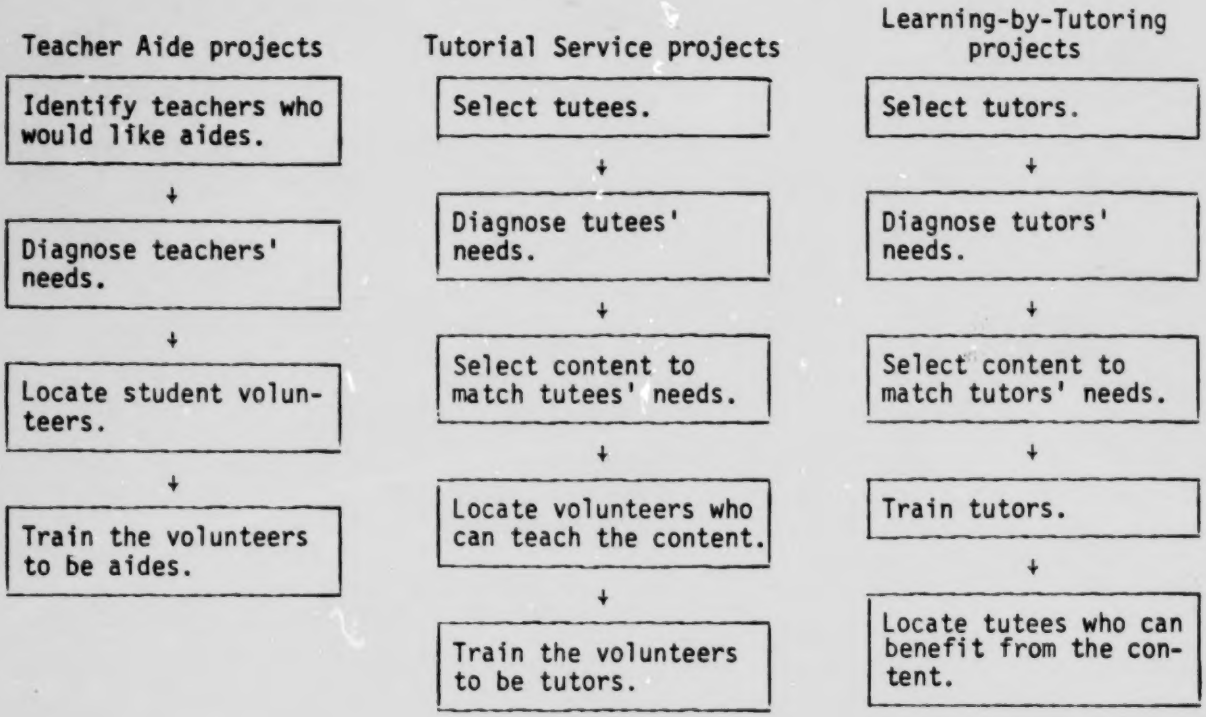
Teacher Aide projects
Identify teachers who would like aides.
Diagnose teachers' needs.
Locate student volunteers.
Train the volunteers to be aides.
Tutorial Service projects
Select tutees.
Diagnose tutees' needs.
Select content to match tutees' needs.
Locate volunteers who can teach the content.
Train the volunteers to be tutors.
Learning-by-Tutoring projects
Select tutors.
Diagnose tutors' needs.
Select content to match tutors' needs.
Train tutors.
Locate tutees who can benefit from the content.

Figure 1. Procedures for three kinds of tutoring projects

Which kind of project should you chose and how should it be designed? Only those who are to be involved can provide answers to such questions. The following chapter poses a series of Planning Questions--things to be considered by persons planning a tutoring project.

CHAPTER III. PLANNING FOR A TUTORING PROJECT

We'll assume you have decided to explore the possibility of some kind of tutoring project. This chapter helps you to "set the stage" by consciously considering an important set of questions that are always answered, either deliberately or by default, in planning a tutoring project.

You might use these questions and the accompanying discussions in a variety of ways. Perhaps you will work through them alone and make your own decisions, then announce these decisions to the persons involved. This is efficient and it might be appreciated that you've taken responsibility and got things moving. This lone-planner approach may lead to trouble later, however, in a lack of commitment to the project. For example, if teachers have had a say in the planning of a project, they are more likely to regard the project as theirs and give it greater attention than if it was imposed upon them. And the project is more likely to be feasible if teachers share in planning.

An alternative to the lone-planner approach, then, is to make a general announcement regarding tutoring projects--explaining the three models as possibilities--then ask those interested to review the planning questions either as a group or first individually and then as a group. Projects can then be outlined, and those who will implement them can continue with detailed planning.

The Planning Questions help you to design a project and allocate responsibilities for project implementation. Planning takes time; and beyond a few hours of initial, voluntary indication of interest, teachers should be paid or receive release time for planning.

Occasionally the following pages may seem to take a deliberately maverick approach. Often, the usual practice is described and then arguments are advanced for some other, contrary practice. Common practice can be recommended or commended because it has at least occurred, and there must be strong reasons for the choice of the practice. On the other hand, second thoughts might sometimes prove better than first ideas, so that challenges to current practice

should be welcomed as a way to advance the variety of our methods of instruction. The alternatives to current practice are presented in a spirit of challenge, to stimulate consideration, and with an invitation to try them out and see; they are not presented as criticisms of current practice. Figure 2 provides an overview of the planning steps and the questions considered at each step.

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Figure 2. Planning Overview

PLANNING QUESTIONS

--things to consider when planning a tutoring project

STEP ONE: ASSESS CONTEXT (LIMITATIONS AND OPPORTUNITIES)

Question 1. *Are you going to consider cross-school projects, within-school projects or both?*

This question must be considered immediately, because if another school is to be involved, teachers from the school should attend planning meetings. A cross-school project involves moving either tutors or tutees to another school. For example, junior high students might tutor in an elementary school. A within-school project involves tutors and tutees in the same school, e.g., upper grade elementary school students tutoring lower grade students in the same school or seniors tutoring freshmen in a senior high school.

Advantages that may be obtained from a cross-school project are:

- Tutors may have higher status in the eyes of tutees when they come from another school.
- Cross-school tutoring provides a way to have adolescents--who are often bored and rebellious--take on responsible roles in the schools by tutoring young children. If asked to tutor other adolescents, they might be embarrassed or tend to socialize rather than tutor.
- If the schools are of different populations, cross-school tutoring can "integrate" different groups of students, e.g., groups of different economic levels or ethnicity.
- Cross-school tutoring can ease the transition that students make in moving from elementary to junior high school and from junior high to senior high.
- Tutors can be considerably older than tutees thus increasing the likelihood that they know more than the tutees.
- More mature tutors can be involved.

The major problem with cross-school tutoring involves transportation. If tutors are asked to walk to the tutees' school, they tend to arrive at odd times, and this is disruptive. Even for a short distance a bus is desirable.

The bus journey can be used for announcements and the checking of absentees. [The need for two-way transportation between schools can be avoided by having tutors report to the receiving school first thing in the morning to tutor and then be transported to the sending school. Alternatively, tutoring can be scheduled at the end of the school day so tutors just leave for home from the school at which they have been tutoring.]

Communication is another major problem in cross-school tutoring, but clear schedules and procedures for changing them can reduce the problem. Legal problems are occasionally encountered in cross-school projects. For example, one district had busses insured for elementary school children but not for the secondary tutors who rode the busses. Credential problems may also occur. Nevertheless, many schools have worked out these problems and implemented cross-school tutoring projects.

The major advantages of within-school tutoring are:

- ease of communication between sending and receiving teachers
- tutors and tutees may benefit beyond the actual tutoring sessions--by being on the schoool playgrounds together at recess, for example

Question 2. *What resources are available?*

Resources can be considered in various categories: people, space, materials and--the resource that solves the problems of the other resources--money.

A. People:

Which people are likely to be interested and what can they contribute? The following should be considered:

teachers	community volunteers
administrators	district people
parents	possible consultants or workshop leaders

B. Space:

Can a room be set up especially for tutoring, with partitions making booths? If not, can a spacious room be made available part of the day for tutoring (e.g., cafeteria or auditorium, large classroom)? If regular classrooms must be used, can portable dividers be used to mark off space for each tutoring pair?

C. Material resources:

Are there individualized instructional materials that could be adapted for tutoring? Are programmed materials available? Other resources? (e.g., flash cards, games, workbooks, duplicating machines, supplies)

D. Financial resources:

What sources of funds are there?

ESEA Title I?	ESAA?	Student body funds?
ESEA Title III?	PTA?	Other?
Right-to-Read?		

Can funds be obtained to transport tutors between schools?

Question 3. *What constraints must be considered?*

- If funds are available from an external source, what constraints do these funds impose? (e.g., Title I regulations should be studied if Title I funds are to be used--or see CSE Report on Tutoring #2)
- What other constraints or limits must be considered? (e.g., bell schedules)
- Must parent permission be obtained for tutors? For tutees?

[NOTE: Considering resources before goals--the next question--may seem strange, but knowing what you've got to work with keeps planning within the realm of feasibility.]

STEP TWO: SPECIFY GOALS

Question 4. *For whom are projects to be planned?*

- For what kinds of students are tutoring project(s) to be planned? Grade levels? Achievement levels? Motivation characteristics? Consider tutors and tutees separately.

Answers to this question will depend partly on which teachers wish to be involved if teacher participation is voluntary.

Question 5. *What goals are most important for tutors and for tutees?*

The list below summarizes the benefits that were mentioned in Chapter 1. Put a "1" by the most important goal, "2" by the next most important, and so on.

Tutors

__increase cognitive learning
--in reading__
--in math __
--other __

__increase skills in oral communication

__enjoy tutoring

__develop empathy for teachers

__develop concern for younger students

__become interested in being teachers

__increase self-esteem

__improve attendance

__work harder than in regular classes

__improve cooperation with teachers

__accept responsibility

__exercise authority

__learn to organize lessons and materials

__learn value of promptness

__learn interpersonal skills (smiling, overcoming shyness, avoiding destructive criticism, etc.)

__learn how to counsel tutees

__learn how to communicate with parents

__like students of ethnicity different from own

Tutees

__increase cognitive learning
--in reading__
--in math __
--other __

__increase skills in oral communication

__enjoy tutoring

__receive individual help from tutor

__receive individual help from teacher

__work harder than in regular classroom

__improve self-esteem

__accept tutors as role models

__like students of ethnicity different from own

__learn interpersonal skills

STEP THREE: SELECT A MODEL OR MODELS

Question 6. *What kind of tutoring model will best achieve the goals chosen for the target groups--Teacher Aide projects, Tutorial Service projects, or Learning-by-Tutoring projects?* [See Chapter II for description of these three models.]

Teacher Aide projects help teachers so that they can help their students. Tutors will benefit from being teachers' aides if they work well with their receiving teacher and develop a sense of responsibility and pride in their own maturity. The work of the tutor may be varied and interesting or monotonous, depending upon the receiving teacher and the tutor's perceived capabilities. Tutees may benefit by receiving more of their teachers' attention or by direct help from the teacher's aide (the "tutor").

Tutorial Service projects are designed so that the tutees learn work that they need to know. If tutees' cognitive achievement is of prime concern and tutors' cognitive achievement can be incidental, Tutorial Services are an appropriate kind of project. Tutors inevitably learn something, even if they are only reviewing work they know when they tutor. Tutors are often perceived as gaining in confidence and responsibility.

Learning-by-Tutoring is probably the best choice when the major concern is the cognitive achievement of tutors, or of both tutors and tutees. Furthermore, a good deal of evidence suggests that it is the tutors who make the most dramatic gains. Because they must receive regular instruction and training, tutors invest more time in tutoring projects than do the tutees; and because they have to explain it, they confront the material more thoroughly.

Learning-by-Tutoring projects are particularly appropriate for "compensatory" education at the secondary level. Secondary students whose mastery of basic skills is inadequate often resent working on such skills and are bored with school. Being assigned as a tutor produces unprecedented motivation and hard work on basic skills.

It may be feared that low-achieving tutors are likely to teach incorrectly. The possibility of inadvertent incorrect teaching certainly exists and is one

reason for close supervision and monitoring of the tutoring sessions, as well as frequent diagnostic testing of the tutees and regular training of tutors. The supervising teachers need not become upset, however, if incorrect teaching occurs; errors can easily be corrected, and it is a mistake to think that the tutee is learning everything taught. The errors are forgotten along with correct instruction a good percentage of the time!

In a recent study (Fitz-Gibbon, 1975) the number of instances of incorrect teaching showed a slight positive correlation with gains on the part of tutees rather than showing any deleterious effects. Tutors making more errors managed to get their tutees to learn more than tutors making fewer errors. The explanation for this appeared to be that more errors were simply indicative of more work accomplished, and more work meant higher achievement. Clearly, however, errors are to be avoided if possible. As noted above, close supervision and monitoring of tutoring sessions are always desirable, and these activities should ensure that errors are caught.

Rather than selecting just one of the three models--Teacher Aide, Tutorial Service or Learning-by-Tutoring--you may want to plan more than one project, or to merge models. An example would be a three tier tutoring project in which older students teach upper grade elementary students in a Tutorial Service model, and then the upper grade students teach lower grade students in a Learning-by-Tutoring project.

STEP FOUR. SELECT VARIOUS PROJECT CHARACTERISTICS (Selections may be tentative, of course, and subject to revisions in the light of subsequent experiences.)

Question 7. *At what time of the day will tutors and tutees be brought together?*

This question was already discussed, but there may be a need to reconsider this decision in the light of the goals or to collect more information regarding interest or the availability of transportation. For within-school projects, a similar diagram of bell schedules as in Figure 3 may be needed in order to find times of day when tutors and tutees can be brought together.

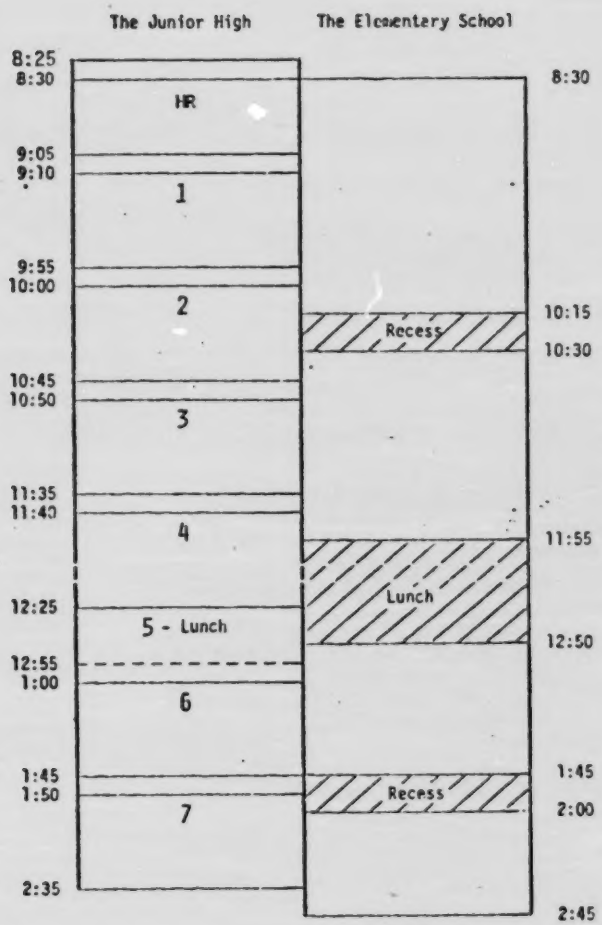


Figure 3. Bell schedules for two schools

Question 8. *For tutors, is tutoring to be conducted as a regular academic class carrying academic credit, as an elective carrying credit, or in "spare" time for no credit?*

For Teacher Aide projects it would be difficult to justify academic credit, but credit for an elective, for an "experienced-based" course or a service activity would be well justified. For Tutorial Service projects, the same argument might apply--tutors are rendering a service and gaining experience, but they are not earning academic credit. For Learning-by-Tutoring projects, however, every effort should be made to give academic credit, since tutors will be learning, and working hard to do so.

Question 9. *Will tutors be paid?*

If there are no funds, then clearly tutors won't be paid--unless tutees' parents will purchase the tutoring services. If there is the possibility of using funds to pay tutors, however, you will want to discuss if and when tutors should be paid.

Hoffmeister (1973) working in an inner-city junior high school trained a ninth grade reading class for one semester. The following semester this class tutored a seventh grade remedial reading class and received pay from Title III funds. Hoffmeister felt that the monthly paycheck of about $30 per tutor was very important in maintaining high effort throughout the semester of tutoring.

Before any payment system is implemented, however, consideration should be given to the probability that, if they have been paid previously, one could not easily ask tutors to tutor without pay at a later date. The question also arises as to whether students should be paid for any school activities.

An experiment by Gabarino (1975) suggests that tying payments to successful tutoring (tutor gets paid if tutee learns--a performance contract system) leads to a poor quality of interactions between tutors and tutees and to decreased rather than increased tutee achievement. However, this experiment must not be confused with payments which do not depend upon the success of the tutees.

A position that seems reasonable is that tutors should be paid when

- they are giving up their own time to tutor, and
- they are already competent, trained tutors.

These conditions might very well pertain when there is a summer session tutoring project following an in-school-time tutoring project during the school year. Students who have tutored well might be employed in the summer.

When tutors are tutoring during the regular school day and perhaps receiving credit for class, it does not seem necessary to offer pay as well. This would be particularly true in a Learning-by-Tutoring model where tutoring is designed explicitly to benefit the tutor.

If funds are available, the use of paid professionals might be considered. Such a program, however, sacrifices any potential benefits to students as tutors.

Question 10. *For tutors, is tutoring to be voluntary, encouraged or assigned?*

The tendency has been to let tutors volunteer on the theory that volunteers will perform better than non-volunteers or that tutors are providing a service, not receiving benefits. Both suppositions should be challenged. No studies have been conducted to show whether volunteers perform better as tutors than non-volunteers. Furthermore, many people familiar with tutoring projects say that the most surprising students sometimes make the best tutors. Students who are themselves troublesome or turned-off to school are often excellent tutors; but unless assigned to tutor, these students might not volunteer--they do not see themselves as tutors. Slow students may sometimes make better tutors than bright students because they proceed more slowly and carefully through the material to be taught and may be more patient with slowness on the part of the tutee; yet slow students might not volunteer to tutor, thinking that only the best students can teach others.

One study showed that low-achieving, inner-city, ninth grade students who had been required to tutor were later significantly more interested in having tutoring as an elective than an equivalent group of students who had not been required to tutor (Fitz-Gibbon, 1976). The experience of having to tutor makes many students interested in choosing to tutor later. How else than by trying it can students know if they will like it or feel good at it?

The idea that tutors must be volunteers because they are losing time or making a sacrifice to tutor must also be challenged. If social and attitudinal goals are important, then even in Teacher Aide or Tutorial Service projects, tutors are benefiting. Certainly in the Learning-by-Tutoring projects tutors are benefiting; and they could well be assigned to this kind of project just as they might be assigned to some other method of instruction such as computer-assisted or workbook-based individualized instruction.

Of course, tutoring doesn't have to be simply voluntary or non-voluntary; counselors or teachers, by encouraging certain students to sign up for tutoring

classes, can possibly overcome the students' own misgivings. Many times, however, it might be in the best interests of students to require at least a trial period as a tutor and not rely on their willingness to volunteer.

Question 11. *For tutees, will the tutoring be voluntary, encouraged, or assigned?*

The tendency has always been for tutees to be told to receive tutoring, usually on the basis of a remedial need. Alive to this situation, some youngsters have been reported to fail in their work on purpose in order to receive tutoring which they enjoy--thus converting the system to a voluntary one for the smart children (Perry, 1975)! On the other hand, in a tutoring project that employed adult tutors, tutoring was reported as being resisted by tutees (Blank, et al., 1972).

Perhaps the best approach to dealing with both the problems of the over zealous tutee who desires tutoring and the resistant tutee is to consider intact-class tutoring in some projects, as discussed in the next question below.

Question 12. *Intact-class or pull-out projects?*

A tutoring project may be an "intact classes" project involving an entire class of tutors paired with an entire class of tutees, or alternatively either tutors or tutees or both might be pulled out of regular classes in order to participate in tutoring activities.

Projects employing intact classes have several advantages:

- The full attention of the sending and receiving teachers is focussed on the tutoring, whereas in pull-out projects the teachers must divide their attention between students who are pulled out for tutoring and students who remain in the regular class. When students who have been in tutoring activities return to class, for example, the teacher has the problem of helping them to catch up or of ensuring that they have not missed anything important.
- Use of intact classes means that both sending and receiving teachers can jointly supervise the tutoring. This not only ensures adequate supervision and support but also promotes coordination and planning to ensure that both tutors and tutees benefit.

- Pulling students out of regular classes may sometimes be seen as stigmatizing, labelling them as being in need of special help. Students are less likely to feel singled out if their entire class is involved in the tutoring project.

- Scheduling is simplified. Scheduling 30 tutors to tutor in one classroom is far simpler than scheduling 30 tutees to be pulled out of as many as 30 classrooms. Absences and schedule changes caused by such events as field trips can be dealt with easily on an intact classroom basis but become frustrating when many classes are involved.

STEP FIVE: DEFINE THE TUTORING TASK

Question 13. *Are "programmed" materials to be used?*

"Programmed" materials have the tutor guide the tutee through a prescribed routine. These routines have been carefully developed, tested and revised as necessary so that the programmed instructions, as finally published, ensure that learning by the tutee almost always results. Programmed materials have been developed mostly for beginning reading (Ellson, 1968; Harrison, 1972) and math (Ronshausen, 1974). Because they should "work" rather reliably, their use is attractive. What are the drawbacks?

- Purchase of materials is required. This requires time and money, and most materials cover beginning reading or math only.

- Training of tutors may have to be done by outside consultants rather than by teachers.

- Tutors can become bored (e.g., Klaus, 1975, p. 53). This is not surprising since the tutor replaces a teaching machine.

- Tutors may not learn much from using programmed procedures.

An experiment by Myers, Travers and Sanford (1965) indicated that a tutor role of simply supplying correct answers much like a machine did not promote nearly the amount of learning that was induced by a more active role in which tutors helped tutees in their attempts to generate the answers prior to being told them. Programmed materials may resemble quite closely the experimental tutor-tutee roles by Myers et al. For example, Ronshausen who developed the Programmed Math Tutorial wrote:

The need for professional judgments by the tutor is reduced to a minimum--the tutor judges only the correctness of the child's responses. While the operational programs describe correct and incorrect responses and tell the tutor how to proceed in either case, the content programs give specific correct responses. Thus, persons with limited knowledge of mathematics can perform successfully as tutors (Ronshausen, no date).

Similarly in the evaluation of a Title I project in Highland Park, Michigan, the role of tutor is seen as one of replacing a machine:

Tutors in this program easily performed functions which if performed by teaching machines would have entailed great expense. They kept records of correct and incorrect responses, delivered immediate reinforcement for correct responses and, most important, provided the correct response whenever an incorrect response occurred (Highland Park School District, 1976).

Careful evaluation of Ronshausen's tutoring project showed significant benefits to tutees, whose learning was contrasted with that of equivalent control group students not receiving tutoring, but learning by tutors was not assessed even when tutors were students rather than, as was more usual, paraprofessionals. Evaluation of the Highland Park tutoring program relied on grade equivalent gains with no control groups and is therefore difficult to interpret.

Question 14. *If programmed materials are not used, how much structure should be imposed on the tutoring session?*

One way to approach this question is to consider the tutor's job as having two components: there is the content to be taught, and there are various methods that could be employed to teach the content. In programmed materials, both content and methods are completely specified. In less structured projects either the content to be taught or the methods employed might be either left to the tutor or prescribed, through edict and training, by the teacher. Thus the tutors' task might be classified in one of the four cells of the following matrix:

	CONTENT TO BE TAUGHT	
METHOD TO BE USED	prescribed	open
prescribed	1	2
open	3	4

Cell 1. Tutors are told what to teach and how to teach it. This may be necessary to ensure high quality instruction. Programmed instruction falls in this cell, but less tight control might also be exercised while still controlling tutor behavior enough to ensure effectiveness.

Cell 2. Tutors are provided with a method of tutoring that they can apply to any content that they select for the tutee. For example, tutors may learn general procedures (such as "diagnose--prescribe--provide knowledge of results") which they can apply to any learning objectives they select. In the content area of reading the "structured tutoring" of Ebersole (1976) involves this approach. Tutors learn a set of procedures to build decoding skills and comprehension when having tutees read to them. They can apply the techniques to any reading material.

Cell 3. Tutors are told exactly what content tutees must be taught, but the methods they employ are left up to them. (This approach wouldn't necessarily preclude showing tutors methods they might use if they wished.) The content to be taught might be prescribed by showing tutors the kind of tests tutees will be given periodically to see if they are learning. This approach concentrates attention on setting clear goals and letting tutors find a way to meet them. Because tutors are free to choose or develop methods as they wish, they may feel more involved and become bored less readily than in situations in which they must follow fixed procedures. On the other hand, students may need or prefer the security of a routine, especially when they first begin to tutor.

Cell 4. In this situation, perhaps best illustrated by the Lippitts programs (Lippitt et al., 1971) or cross-age tutoring projects in the Ontario-Montclair School District, California, tutors decide what and how to teach. Does this lead to low achievement? It depends upon the goals of the project. If tutors are to be friends and counselors, solve problems for tutees and improve attitudes, these open-content, open-method projects might work well. They are difficult to evaluate since it is not usually possible to specify what would be measured for success, except perhaps student satisfaction. Attitudes to self (e.g., self-concept) or to school are notoriously difficult to measure persuasively.

Question 15. *Full-sequence instruction or remedial instruction?*

In Teacher Aide programs tutors are often asked to help students who are having difficulty. The tutor is expected to provide remediation--to find out what the tutee does or doesn't understand (of a lesson given by the teacher) and then work on problem areas. This ad hoc remediation may be more difficult to perform, may require more skill and flexibility, than "full-sequence instruction." In full-sequence instruction a tutor starts from scratch with a topic, providing both the initial instruction and the subsequent required practice. Full-sequence instruction will be particularly appropriate for Learning-by-Tutoring projects and may be preferable as a tutoring strategy in Tutorial Service projects.

Advantages of full-sequence instruction as opposed to ad hoc remedial instruction are:

- Full-sequence instruction is probably easier for tutors since they can learn a sequence of presentations instead of having to learn diagnostic-prescriptive skills.
- Tutors are more likely to learn the content thoroughly if they teach it from first principles several times rather than dipping into the content here and there.
- Tutees may become lost or confused less often if tutors provide the initial instruction rather than teachers. This is likely because the tutors can pace the instruction for the individual tutee and make sure the tutee is paying attention.

In the long run, then, it may be preferable to have tutors provide both initial instruction and practice in some clearly defined skills. Will teachers object to this? If the teachers can train the tutors to present the material exactly as the teachers wish it to be presented, then they will usually find the procedures quite acceptable. It should be emphasized that tutoring is not teaching. Teaching involves selecting curriculum, diagnosis and prescription as well as actual instruction. Tutors are trained by teachers to teach clearly defined units of the curriculum.

Question 16. *How long should tutoring sessions be and how frequent?*

There are suggestions in the literature that less than about 2 hours of instruction per week is too little for effectiveness, at least for elementary school

students. Ellson et al., using 15-minute sessions, found significant effects for two tutoring sessions per day but not for one session per day. Cloward (1967), using sessions of 3 hours in which only about 1 hour was actual instruction, found two sessions a week effective but not one per week. It may be that the tests employed in these two studies--published norm-referenced tests--were insensitive, however,

Using tests that directly measured the prescribed content that tutors taught, Fitz-Gibbon found that as little as 20 minutes per day of scheduled tutoring resulted in significant gains by tutees over a 3 week period. These gains were not significantly different from those obtained in 30 or 40 minute scheduled sessions. In addition, no significant differences were found between the 20, 30 or 40 minute groups 3 months later. All were still significantly higher than the control group that had received no tutoring. Perhaps the tutees (who were fourth graders) could not concentrate as intensely for 30 or 40 minutes as for 20 minutes, or perhaps the tutors (ninth graders) who knew they had 30 or 40 minutes to teach did not work as quickly as those who knew they had only 20 minutes. (Tutees, by the way, had no preferences regarding length of session; but tutors who had 30 minute sessions were most satisfied with the length of time assigned to lessons.)

In view of the intense attention to work that often occurs in a tutoring dyad, many sessions as brief as 20 minutes would appear preferable to crowding tutoring into a few long sessions. A minimum of 2 hours per week spread across at least 3 days would seem a reasonable recommendation with the proviso that less than a total of 2 hours per week might sometimes be sufficient if tutoring occurred every day.

Question 17. *How will tutors be selected?*

This question may have already been answered under question 4, but while a general target group may have been selected (e.g., ninth graders), the question may need further discussion to select specific groups or individuals.

Teacher Aide projects often require good citizenship and attendance records from students. These indicators of responsibility and reliability seem more important than academic achievement.

In selecting students for Tutorial Service projects, there is frequently an inclination to select academically able students. This might be necessary

if tutors are to receive little training or support, but many projects have found low-achieving students to be excellent tutors if given the proper training and support. Indeed, some project directors suggest low-achieving students are generally better than high-achieving students, being more patient and concerned (Sherertz, 1975). Among inner-city ninth grade tutors from a "General Math" class, Fitz-Gibbon found little difference in effectiveness among tutors of different abilities. Low-achieving students were not less effective than somewhat higher ability students in a three week tutoring module.

Selection of tutors is sometimes based on their prior record of attendance or cooperation, but many persons with experience of tutoring suggest that previously "difficult" students may vastly improve as tutors and may be the ones most keen to continue tutoring. In Fitz-Gibbon's study, students rated by their teachers as the most poorly behaved in the regular classroom were on average the ones most interested in having opportunities to tutor.

For Learning-by-Tutoring projects the selection question usually becomes one of selecting classes rather than individuals. Would a Learning-by-Tutoring project be as suitable for an algebra class as for a remedial general math class? Almost all cross-age tutoring projects have concentrated on basic skills-reading and arithmetic--but strong pleas have been made for applying Learning-by-Tutoring projects to all levels of academic achievement. For example, at a White House Conference on Education, Zacharias, a Massachusetts Institute of Technology physics professor, urged wide use of teaching as a means of learning. He stated: "I would like to begin a college (freshman, sophomore, junior, or senior) course in light by having the members of the class start by teaching light to children." (Zacharias, 1965)

In summary, if the project is to be a Learning-by-Tutoring project, it can probably be applied effectively to any group of tutors as long as they teach work they themselves need to learn. If it is to be a Tutorial Service project, it is not clear what kind of student will make the most effective tutor. Probably only a trial period will tell; and any selection based on achievement, prior attendance, cooperation in class, etc., is a procedure based only on guesses or hunches. In Teacher Aide projects, compatibility with the receiving teacher might be a criterion; but, again, attempts to predict this may be unsuccessful and therefore unfair to students excluded. Wherever possible, give students a chance, without prejudice, to try a new role--the role of tutor.

Question 18. *What will tutors be called?*

Officially, we mean. Scherertz feels that the term "tutor" carries bad connotations implying remedial work and the "dummy" status of the tutee. He prefers the terms "olders" and "youngers" rather than tutors and tutees. To build up the status of tutors, they are sometimes introduced to tutees as "junior teachers" or "your teachers from school X," but some teachers may object to that. The name given tutors is a small point and probably not critical. It is the total ambience of the program that counts.

Question 19. *On what basis will tutees be selected?*

In Teacher Aide projects the receiving teacher selects tutees according to immediate needs.

In Tutorial Service projects the usual practice has been for receiving teachers to request tutoring for those students who are in need of help, i.e., selection is based on low achievement or the need for remedial instruction. However, as suggested in Question 15, letting tutors provide full sequence individual instruction for those students who are often inattentive might forestall some achievement problems.

In Learning-by-Tutoring projects an important consideration in selecting tutees is that tutors need a sense of accomplishment. If only "problems" are sent to tutors, it becomes difficult for tutors to enjoy one of the great rewards of teaching--seeing significant progress in the learner. When a tutoring project is explicitly planned for the benefit of the tutors, plans for successful tutoring experiences must be laid. These would even seem to call for avoiding the selection of tutees who are very difficult to teach. At the very least--and particularly bearing in mind the discussion relating to intact-class or pull-out projects--an entire group of tutees should receive tutoring, and each tutor should have a chance to work for a while with a tutee who is making good progress.

An important point to consider is that the selection procedure may affect the possibility of evaluation. Say, for example, you want to know if tutees benefit from receiving tutoring. You will need to compare their achievement level after tutoring with the achievement level they would have reached had they stayed in class or received some other kind of help (e.g., resource teacher

help or special workbooks). The simplest and best way to provide an answer to that question is to select more tutees that can be included in the project in its first few cycles. Then randomly select some of the tutees to receive tutoring and others to either stay in class or get some other kind of help. At the end of a few weeks or months of tutoring, assess the achievement of tutees and of the comparable, randomly selected group of non-tutees. Comparing tutees to non-tutees will show how effective the tutoring was. (See Chapter VI, Evaluating Tutoring Projects.)

Question 20. *How should tutors and tutees be paired?*

This is a question that has interested researchers (Cloward, 1967; Lakin, 1971; Fitz-Gibbon, 1975) but in practice has not bothered practitioners much at all. Sending and receiving teachers usually sit down together and decide which tutors would work well with which tutees. Later if members of a pair do not seem to get along well, a change is made. Fitz-Gibbon noticed that ninth graders did not want to change their tutees even if they found them difficult, and it is common experience that tutors and tutees become friends and do not want changes made. On the other hand, Rosenbaum (1973) insists on constant changing of partners to avoid the building of attachments. However, his system, "Peer Mediated Instruction," involves peer rather than cross-age tutoring, and this constant changing may only be needed to avoid some of the socializing that tends to occur among peers. In Ebersole's system students from two classes are paired by achievement. A quick vocabulary test is given to the tutors' class and to the tutees' class. Students are rank-ordered on the basis of the scores, and the top tutor is joined with the top tutee, and so on down the list. In the Ontario-Montclair projects, emphasis is placed on matching tutors and tutees on the basis of interests and personality.

Has the work of researchers shed any light on the question of tutor-tutee pairing? Cloward, examining the Youth Tutoring Youth project, found that black tutees did better when working with tutors of the same sex and ethnicity (Cloward, 1967). Lakin (1971), examining tutoring among Mexican-American and Anglo children, found that young Mexican-American males did not achieve as well as expected when tutored by a female. Fitz-Gibbon found that while both male and female tutees generally expressed a preference for a female tutor, when tutors were randomly assigned, the sex of the tutor made no difference

to the liking of the tutor by the tutee or to the wish to continue with the same tutor. There was the possibility that if low ability tutors were assigned to high ability tutees, tutees began to enjoy tutoring less.

Perhaps the best summary of the above smatterings of findings is that if there is something uncomfortable in the pairing, there may be problems. However, exactly what factors students will find uncomfortable cannot always be predicted and should probably be ignored in some cases. Concessions should not be made to ethnic or sexual stereotypes in pairing tutors and tutees! It does seem reasonable, however, to ensure that tutors know more than their tutees.

STEP SIX: ASSIGN RESPONSIBILITIES

Question 21. *Who is to be responsible for the various tasks required to run the project?*

This is a question that must be confronted initially and may then need reconsideration after the project has run a while.

One approach to assigning responsibilities is to list the tasks that must be undertaken and then the personnel available--not forgetting students, volunteers, parents and aides. Tasks are then assigned to persons on a Task Assignment Sheet. An example of a Task Assignment Sheet for a cross-school Learning-by-Tutoring project is shown in Figure 4.

STEP SEVEN: PLAN FOR EVALUATION

Question 22. *Who will be responsible for the evaluation?*

Chapter VI provides step-by-step procedures for planning an evaluation and can serve as an aid for the person responsible for evaluation. Preferably this will be a person having some familiarity with educational measurement.

PERSONNEL

1 - sending teacher
2 - receiving teacher
3 - community aide*
4 - secondary school tutors
5 - elementary school tutees
6 - secondary school counselor or principal
7 - elementary school principal
8 - invited consultants
9 - district personnel, e.g., curriculum specialists

TASK	1	2	3	4	5	6	7	8	9
Curriculum planning									
Decide what general content should be taught in each cycle of the program									
Selection of tutors									
Decide who should be tutors									
Selection of tutees									
Decide who should be tutees									
Pre-service for tutors									
Train tutors to relate to and teach younger students									
Scheduling and transportation									
a. Decide which days to tutor									
b. Schedule the buses/keep drivers informed of schedule changes									
c. Supervise the bus ride									
Daily prescription									
Decide what each tutee is to learn each day									
Supervision									
a. Prepare room for tutoring, get out materials, etc.									
b. Reassign tutors and tutees whose partners are absent									
c. Supervise the tutoring session									
d. Make regular checks of tutee papers to see they are being taught correctly									

*may be a parent volunteer or a paid paraprofessional

(continued on next page)

Figure 4. A Task Assignment Sheet for a Learning-by-Tutoring Cross-School Project

PERSONNEL

1 - sending teacher
2 - receiving teacher
3 - community aide
4 - secondary school tutors
5 - elementary school tutees
6 - secondary school counselor or principal
7 - elementary school principal
8 - invited consultants
9 - district personnel, e.g., curriculum specialists

TASK	1	2	3	4	5	6	7	8	9
e. Check tutor attendance									
f. Check tutee attendance									
In-service for tutors									
Help tutors solve problems and prepare more lessons									
Evaluation									
a. Prepare regular tests for tutees									
b. Assign grades or prepare reports for tutees									
c. Prepare regular tests for tutors									
d. Assign grades or prepare reports for tutors									
e. Write an evaluation of the project									
Management									
a. Order special materials as needed									
b. Organize special activities to honor the tutors									
c. Answer questions about the project from the district, from other schools, etc.									
d. Show visitors around									
e. Obtain parent permission if necessary									
f. Obtain approval for course credits if necessary									
g. Locate workshop leaders									

There may be funds for a paid professional evaluator if tutoring is to be run with Title I funds or other funds that are accompanied by evaluation requirements. With or without a professional evaluator, teachers and parents can put together an evaluation team if there is a wish to do so. Whoever performs the evaluation, it is essential that he or she become involved in the project as early as possible.

Reference back to Figure 2 (page 10) will provide a summary of this chapter. In addition, a Planning Summary Sheet is provided in Appendix A. This checksheet could be used to record planning decisions covered in this chapter.

CHAPTER IV. DEFENSIVE PLANNING
--trying to foresee and forestall problems

At the risk of depressing the reader, this chapter will consider problems that might arise. It should be stressed right away, however, that a recent survey of tutoring projects (see CSE Report on Tutoring #3) found low rates of reported problems. Figure 5 shows how the surveyed projects responded regarding possible problems. One of the "problems" reported as most serious was "more demand for tutoring than we could accommodate"--a positive problem indicating that many projects were perceived as very successful.

Problems to be discussed are:

- Scheduling
- Time for training
- Space/facilities
- Tutors losing interest
- Receiving teachers not using tutors wisely
- Uncooperative tutees

Parts of this chapter might provide a framework for discussions at in-service sessions for teachers, to be conducted once projects are underway.

Scheduling

Arranging when tutors and tutees can work together and making plans for times when one or the other is absent seems to be the source of the greatest number of headaches in tutoring programs as they are currently run.

When there is cross-school tutoring, there is sometimes a conflict because elementary schools prefer assistance in the morning and secondary schools prefer to release their students in the afternoon.

Problems Suggested	percent responding in each category* 1	2	3	4	5	mean response	graph of mean response 1 2 3 4 5
Objections							
1-parental objection to the project	(88)	11	1	0	0	1.1	
2-some objections from teachers at receiving school	(57)	29	5	8	1	1.7	
3-some objections from teachers at sending school	(64)	21	4	9	5	1.7	
4-not enough teachers who wanted to participate	(62)	21	5	9	2	1.7	
5-legal constraints (e.g., course credits, supervision problems, credential problems)	(70)	22	3	4	1	1.5	
Resources							
6-tutoring project personnel were overworked	32	(42)	8	14	4	2.2	
7-not enough time to train tutors	(35)	15	13	25	11	2.6	
8-shortage of space or facilities	(38)	19	13	21	9	2.4	
9-more demand for tutoring than we could accommodate	(24)	23	13	20	20	2.9	
10-shortage of transportation for tutors	(67)	7	5	10	10	1.9	
11-not enough administrative assistance	(51)	23	6	13	8	2.0	
12-insufficient appropriate curriculum materials	(48)	25	16	8	2	1.9	
Student Attitudes							
13-not enough tutors who wanted to participate	(62)	24	2	9	5	1.6	
14-some tutors lost interest in teaching	26	(32)	17	19	5	2.4	
15-some tutors caused problems at the receiving school	(49)	34	7	10	0	1.8	
16-some tutees became uncooperative	(42)	36	6	15	0	1.9	
17-not enough tutees who wanted to participate	(71)	9	2	6	1	1.5	
Procedures							
18-some receiving teachers not using tutors wisely	(33)	(33)	12	16	6	2.3	
19-excessive noise associated with tutoring	(45)	37	11	7	0	1.8	
20-scheduling problems (trying to match tutor hours to tutee hours)	19	23	6	(32)	20	3.1	

○ indicates the "mode" (most frequently chosen response)

Key Categories:

1-This was definitely not a problem
2-I do not think this was a problem
3-Uncertain
4-I think this was a problem
5-This was definitely a problem

Figure 5. Percentage of projects choosing responses to the questionnaire item, "To what extent were the following problems encountered in your project?"

Could it be that these scheduling problems reflect the fact that tutoring is seen as a frill, not as an integral part of schooling? With little commitment of personnel to running tutoring projects, teachers must perforce fit tutoring into an already busy work day. If tutors do not show up when expected or if tutees go on a field trip, a problem situation occurs since students are left unsupervised--a tutee has no tutor or some tutors have no tutees or receiving teacher. Such eventualities would not be disastrous were the tutoring a class-to-class project in which tutors and tutees were accompanied by their teachers. Pull-out projects and Teacher Aide projects require notification of a large number of teachers if any changes in plans occur.

Thus, one way to simplify scheduling problems is to *design a tutoring project that schedules an intact-class of tutors to work with an intact-class of tutees.*

Another way to avoid scheduling headaches is to *have explicit procedures for dealing with absences and with events like field trips that will disrupt normal tutoring arrangements.* Some Teacher Aide projects require tutors to phone the receiving school if they are to be absent--reporting their absence as would a teacher, a procedure found to be very effective.

Because lower grade children are often scheduled to spend fewer hours per day in school than the upper grades, some schools using class-to-class tutoring have a staggered day for the lower grades and this facilitates the scheduling of tutoring. For example, half the lower grade students come to school early and receive tutoring from half an upper grade class. Tutoring is supervised by the receiving teacher. The sending teacher meanwhile works with the other half of the tutors to help them solve problems, prepare for tutoring or do academic work. (It is important that the non-tutoring half aren't doing something that is perceived as especially fun--like P.E.--while others are tutoring.) At the end of the day the lower grade students who already received tutoring go home early and the other half of the lower grade receives tutoring. Now the sending teacher has an opportunity to work with the half of his or her class that tutored in the morning. Figure 6 illustrates this staggered day tutoring pattern.

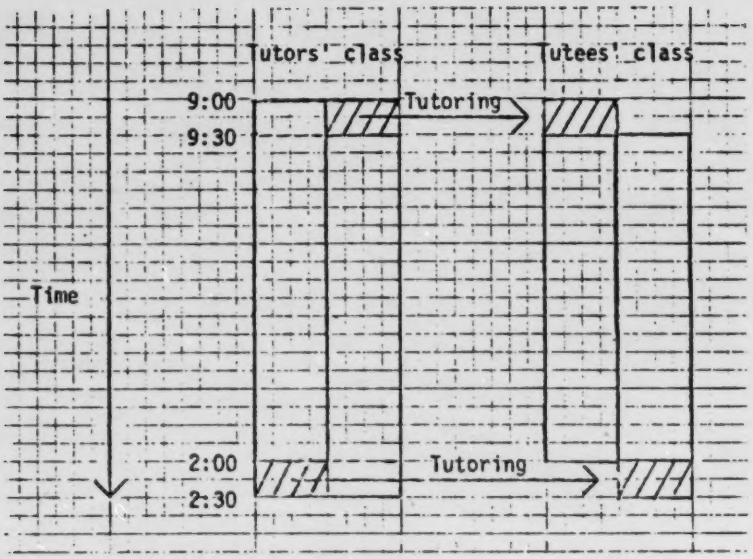


Figure 6. Making use of a staggered schedule for cross-age tutoring

Time for training

Shortage of time to train tutors is a frequent problem. If tutors are not sure what to do with their tutees, the whole project can crumble. Tutors feel frustrated and useless, tutees lose respect for tutors and discouragement will become rampant.

It must be remembered that tutors are not teachers. Most need constant help and guidance, although a few students could happily direct themselves semester after semester and be very effective.

The problem of training is likely to be particularly severe for Teacher Aide projects. Since each teacher will use the student aides differently, only the particular receiving teacher can effectively train his or her aides. Usually, however, there is no time regularly set aside for this training. Each day the teacher takes time out from the class to hurriedly explain what the student aide is to do. A solution adopted by some receiving teachers is to make a practice of teaching a small lesson to a group of children when the aides arrive each day. The aides listen to the lesson and then go over it with the tutees.

In Tutorial Service projects, training is often conducted by the sending teacher 1 or 2 days per week on those days when the tutors stay in class rather than perform their tutorial services. In such circumstances, receiving teachers must plan ahead and let the sending teacher know what kind of work tutors should prepare. Too often the training days are devoted to discussing problems that already arose, many of them perhaps resulting from lack of preparation of the tutor. *Tutors cannot be trained in more than a general way if their specific tasks are not known ahead of time.*

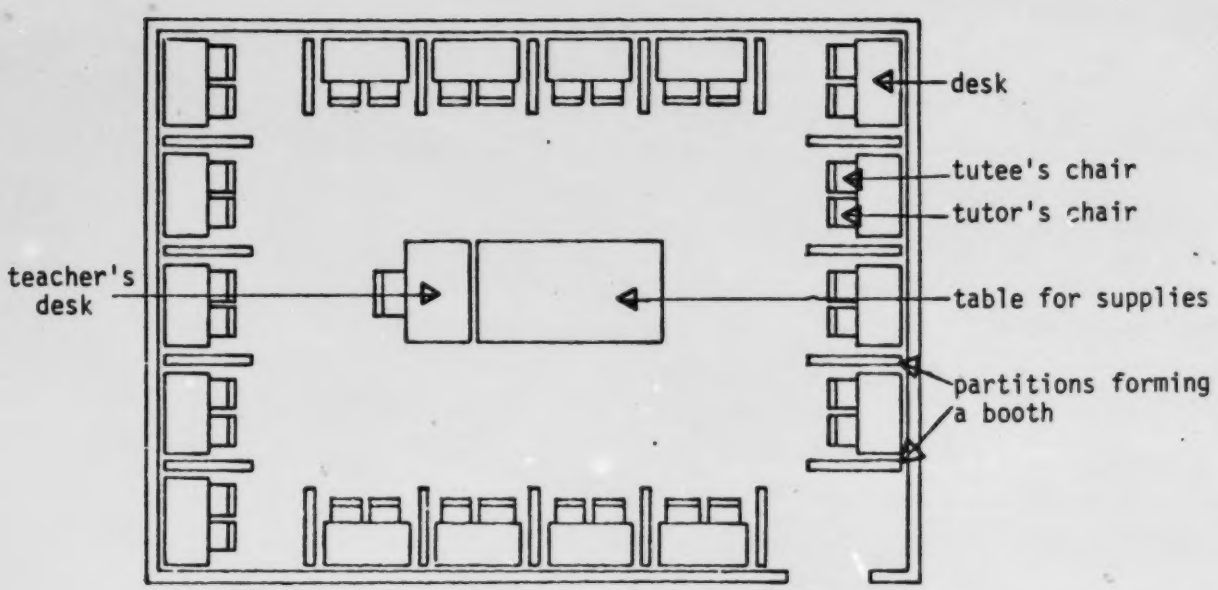
In Learning-by-Tutoring projects training should not be a problem, since the instruction of tutors is a prime feature of the project. Only when tutors are trained for a particular curriculum unit do they start tutoring in that unit, a unit for which they are, therefore, well prepared. However, support must be provided during tutoring in such projects. Tutors often find that they have forgotten something they thought they knew and need to have a hurried conference with the supervising teacher before continuing to teach the tutee.

Space/facilities

When an activity is not provided with adequate space, this indicates that it is not seen as a high priority activity. Too frequently tutoring is seen as a frill. Those who run tutoring projects, who have seen the many-faceted benefits from such projects, will have to speak up and *obtain recognition for tutoring as a high priority activity.*

If intact-classes are involved in tutoring, space might be less of a problem. However, even a whole classroom is not really adequate without some restructuring of the space to provide good conditions for tutoring pairs--places out of sight, if not out of earshot, of other tutoring pairs.

Ideally a room should be specially prepared for tutoring. The room might be used for nothing other than tutoring (declining enrollments make such rooms available these days) or it might be the library or a resource room provided with carrells or partitions. Figure 7 illustrates space-arrangements that have been found effective.



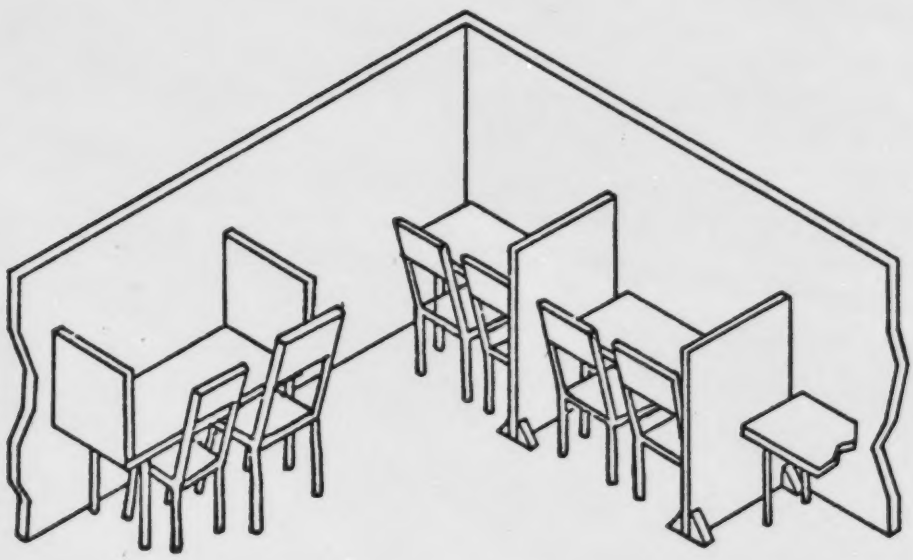


Figure 7. A room specially prepared for one-to-one tutoring

Tutors losing interest

The initial impact of being assigned a tutoring role is frequently breathtaking. "Were you scared?" one husky ninth grader asked another as they returned from their first session of tutoring fourth graders. But youngsters adjust quickly, and tutoring may become routine. If tutors become bored, tutees will sense this and the project will deteriorate. Tutors need not--and probably could not--be kept at the fever pitch of commitment that they often feel initially, but at least a willingness to continue the hard work of tutoring needs to be sustained. How can this be accomplished?

Provide variety. A change is as good as a rest. To the extent that tutors can introduce variety into their tasks, they will become bored less frequently. A steady diet of academic work might be palatable for a week or two, but then the introduction of some games might help. The use of a variety of manipulable materials can help the tutor provide variety. Constant use of programmed materials is particularly likely to be boring to the tutor.

Take breaks. Nothing is likely to renew interest in tutoring quite so rapidly as to cease tutoring and return to regular classes for a couple of weeks. After a break, tutors, tutees, and teachers all miss tutoring--and each other --and are ready to resume with renewed enthusiasm. In Learning-by-Tutoring projects the tutors regularly stop tutoring to learn new work so that breaks are built into such projects.

Provide reinforcements. Tutors frequently work very hard with their tutees; they need and deserve recognition and rewards for their efforts, both in order to sustain their enthusiasm and to validate their sense of accomplishment. Examples of recognition and rewards:

- ceremonies at which tutors are introduced and honored
- having tutors' photos displayed
- having arm-bands to identify tutors (This helps with problems of identifying tutors on school grounds too.)
- pictures and articles in local newspapers
- pictures and articles in school newspapers

- presentation of tutors and their project to the school board
- special parties for tutors and their parents prepared by tutees and their parents (This activity also brings school and community together.)
- a chance for successful tutors to obtain summer jobs as tutors or teachers' aides
- the award of proficiency certificates to effective tutors (Certificates may be given for specific topics, e.g., fractions or for general tutoring proficiency.)
- "points" awarded for good tutoring, points that can be used for field trips or movies
- money (see question 9, page 18)

Make tutoring voluntary. After an initial trial period, tutoring may not be every student's cup of tea. Once a student has given the role of tutor a fair trial, the chance to choose not to tutor may be desirable. Equally, though, the chance to continue tutoring with full support should be given those who find great satisfaction in the role.

Of course, when tutoring is a method of instruction--as in Learning-by-Tutoring projects--than a tutor's "resigning" is synonomous with dropping a class and may be discouraged just as quitting a regular class is discouraged. On the other hand, if tutoring is provided as a service, then tutors might as well be dismissed if they lose interest or do a poor job.

Making tutoring voluntary presents a problem for evaluation. It is highly desirable to collect data on tutor effectiveness, tutee progress, everyone's satisfaction with the project, before any tutors resign. Most projects can look good if the students that they don't suit are dropped.

Provide regular feedback. It is very important that tutors know that their work with tutees is producing results and is valuable. Teachers must regularly assess each tutee's progress and discuss the results of this assessment with the tutor. Such discussions are important not only in Tutorial Service projects but also in Learning-by-Tutoring projects. If tutors are not teaching tutees successfully, they will become discouraged and cease to make the effort needed for effective tutoring. They themselves will then cease to learn or benefit from being tutors.

Make tutee progress highly visible. Tutors, like teachers, can derive great satisfaction from seeing tutees learn and feeling that they are responsible for the learning. Keeping graphs or charts that show tutee achievement is an excellent way to motivate the tutee and provide the tutor with a visible sign of progress. Regular testing of tutees by teachers and reports of these tests to tutors is very important. Such testing shows the tutors how effectively they are teaching and also conveys the message that teachers consider the work important.

The use of objectives can be valuable in the context of defining the tutoring task and checking progress. For example, objectives can be provided to tutors; and every week teachers can test tutees and report to tutors which of the objectives each tutee appears to have mastered.

Receiving teachers not using tutors wisely

This problem arises largely in Teacher Aide projects. Criticism of teacher behavior is always a delicate matter. What appears to an observer to be a poor choice of actions on the part of a teacher might be, from the teacher's perspective, the only option available given the training that was provided for the situation (usually none), the time available (usually almost none), and the number of students to be dealt with.

Complaints are sometimes made in Teacher Aide projects that tutors are not treated with much respect or assigned much responsibility in some classrooms. Also, the receiving teacher sometimes gives the tutor too little direction while other times the receiving teacher hovers around, unable to entrust the tutee to the tutor.

Clearly, the apparent competence of the tutor is one factor in the receiving teacher's behavior. Expectations are another factor. Some understanding is needed ahead of time as to what kind of tasks tutors will be asked to perform and should therefore be trained to perform.

The anxiety that some receiving teachers feel about having student aides (tutors) in the classroom is sometimes severe. Some teachers feel the student aides will carry criticisms out of class and report untoward incidents. Pre-service training of tutors should include a discussion of professional and personal ethics. However, tutors often develop considerable empathy for teachers as a result of taking on a similar role.

Uncooperative tutees

This is a problem that usually strikes when tutees are upper grade rather than lower grade elementary students. Children in grades K through 3 are usually cooperative tutees, and the younger children in particular are the favorites of tutors. One project reported tutors would quit rather than teach fourth graders instead of first and second graders (Ronshausen, 1975).

If tutees are "pulled-out" to receive tutoring, they may resent it either because they feel that being singled out implies they are slow students ("tutoring is for dummies") or because they are afraid they will miss something while they are gone. To counteract the latter problem, it is important that the class pursue only academic work while tutees receive tutoring. Both problems can be avoided by using intact-class tutoring rather than pull-out tutoring (see question 12, page 20).

Different projects will work out the problems of uncooperative tutees in different ways. Some projects will emphasize the value of immediately establishing a close relationship between tutor and tutee by means of explorations of tutee interests and concerns. Other projects will emphasize the supervision and support of the sending and receiving teachers.

Assuming tutors want tutees to cooperate on legitimate activities, the problem can be viewed as one of establishing the influence of tutors over tutees, just as in a classroom a teacher must establish influence over a class. Two social psychologists made an interesting classification of sources of influence (French and Raven, 1960). We can use that classification to examine how tutor influence can be enhanced.

Referent influence. A tutor exerts referent influence over a tutee when the tutee admires the tutor and emulates him or her; the tutor acts as a "role model," someone the tutee tries to emulate.

Although this kind of influence is subtle and very much dependent upon individual personalities, there are some steps that can be taken to enhance it. One method is to select as tutors students who have high status among other students--such as football starts or admired student leaders. Even just a few such students among the tutors lends status to all the tutors in the project, to some extent.

Another method of enhancing referent power is to ensure through appropriate training that tutors know how to treat tutees kindly and with liking. Tutees will most often like tutors who like them--so tutors must probably empathize with and like tutees if they are to have referent influence.

Politicians, rock starts, and royalty know the value of images. To some extent, seeing many flattering photographs of a person arouses interest in that person. Building up the public image of tutors with photo displays and ceremonies might be another way to enhance their referent influence.

Informational influence. Those tutors that know the work better than the tutees will have informational influence. They can supply information that the tutee needs to know. To enhance this kind of influence, tutoring supervisors must ensure that tutors do know more than tutees and that tutees feel that they need to know the work the tutors are teaching. For the latter condition, the receiving teachers must demonstrate to tutees that the content of tutoring sessions is important by observing the tutoring, checking the correctness of the information tutors are presenting, assessing tutee progress, etc.

Expert influence. If a tutor is perceived by the tutee as possessing special knowledge, the tutee will to some extent "take the tutors word for it" that such and such is the case. Perhaps the best application of this expert influence lies in the extent to which the older tutor can impress on the tutee the need to study or do homework--"I know you need to work because I've seen what good things happen to students who do well in school."

Legitimate influence. To the extent that tutees perceive requests from the tutor as legitimate--this older student has been given the job of teaching me, so I should listen to him/her--the tutor exerts legitimate influence. The legitimacy of the tutors role in the eyes of the tutee can be enhanced by emphasizing that the tutor has been trained to tutor and is there to help at the request of the receiving teacher. The perceived legitimacy of the tutoring roles will be strongly influenced by the attitudes of the teachers and administrators in the tutee's school. If teachers ignore or reject the tutoring project, tutors will lose an important source of support.

Reward influence. Tutees may accept the influence of tutors because tutors reward them in some way: a smile for a correct answer, a cheer for a problem overcome--"Hey man, I knew you could do it!" Some tutors spontaneously bring rewards such as candy, but less-tangible "rewards" are probably more suitable. Enabling tutors to plan treats such as field trips or parties for tutees strengthens their reward-influence, and the occasional use of academic games may be both rewarding and productive.

Coercive influence. Tutors' frowns or scolds may coerce tutees into working or paying attention; but if the more positive kinds of influence described above do not work, the supervising teachers should probably intervene rather than allow tutors to be driven to coercive methods. Tutors should be able to appeal for help from teachers. Living in the community tutors can bring parental influence to bear by communicating with parents. (Some teachers running tutoring projects, however, insist that only good reports be sent home to parents.)

* * * * * *

To illustrate some of the points raised in this chapter, a summary of a report about a project that nearly failed is presented below. Following this cautionary tale, there is a description of a Tutor Support System for an effective tutoring program, and a defensive planning checklist which summarizes points discussed in this chapter. This checklist can be applied to a tutoring project to see if potential problem areas are being neglected.

A cautionary tale

Projects which fail are not usually written up for publication, which is unfortunate since practitioners need to know what fails as well as what succeeds. Dreyer (1973) reported a project which nearly failed but was saved. It was a cross-age tutoring project using Title I funds and employing secondary students to tutor in elementary school classrooms.

Tutors were seventh graders who were having reading difficulties. They tutored first grade children who were likewise having difficulties. Tutoring lasted 15 to 30 minutes and took place in the first grade classrooms. First grade teachers, meanwhile, were busy with the remainder of the class and tended to ignore the tutors. This was identified as one of the problems at the beginning of the program. Tutors were given no feedback or reinforcement. The training of tutors, or rather the lack of it, was reported as another problem that threatened the continuance of the project:

> *"Some (receiving teachers) had to spend so much time instructing tutors that they could have saved time by doing the tutoring themselves. Others gave assignments so vague that the tutor did not know what he was to do. In some cases the two or three tutors assigned to each first grade classroom were definite distractors" (p. 310).*

A reading resource teacher and a consultant then set about developing for the tutors very clear, specific procedures based on discussions with teachers. Much of the article described these procedures for tutoring in reading. The method developed by teachers, the reading specialist, and the tutoring program consultant was one involving daily prescribed assignments. Following the teaching of some material by the receiving teacher, this teacher would then indicate appropriate "repetitive practice" for the tutors by marking an assignment sheet. Tutors picked up their assignment sheets and materials and conducted the sessions with the tutees. Tutors then recorded the extent to which the tutee had completed the assignment. Cumulative graphs were made to chart progress, and the resource teacher met regularly with tutors to praise and encourage them and, in particular, to urge tutors to praise and encourage tutees.

No data were presented, but the responses of teachers once the program was working were described as highly positive with regard to tutor and tutee self-concepts. Significantly greater gains in reading skills among tutors and tutees were mentioned but not documented.

One can imagine the problems at first. Unprepared, low-achieving seventh graders were sent to work with low-achieving first grade students. They were given vague assignments and ignored while the teacher continued to work with the rest of the class, the students not having difficulties. The project would have been a disaster had not the intervention of the reading specialist and consultant resulted in the provision of systematic procedures to provide tutors an adequate amount of support.

A Tutor Support System

The kinds of support that tutors need can be summarized as components of a Tutor Support System. With such a system in operation, a project should be extremely effective. The components are described below and summarized for ready reference in Figure 8. It must be recognized, however, that teachers provide the support system for tutors, and they in turn need time and resources if they are to implement an effective tutoring program. The needs of teachers are discussed in Chapter V.

The TUTOR SUPPORT SYSTEM provides tutors with:

(1) Instruction in what to teach. This involves as a minimum a clear, comprehended communication of the objectives of the instruction that the tutor will be giving to the tutee. The objectives might best be communicated by providing samples of tests that will be used to assess tutee progress. If the tutor cannot himself, or herself, achieve the objectives, then content instruction will be needed (e.g., having specified that tutors are to teach tutees how to add certain kinds of fractions, the tutors themselves may need to learn how to add fractions). Some tutors might learn the content in "pre-service" lessons, before commencing tutoring; others may learn only some of the content in pre-service and then regularly seek help during tutoring as they exhaust their skills. This "in-service" help must be available.

(2) Instruction in how to teach. This method-instruction can be part of the instruction in content: by providing a good model when explaining the work, the teacher shows how the tutor can explain the work. However, the instruction in how to teach must also include ideas for concrete procedures specially applicable to the younger students and for means of motivating the younger students. The development of instructional materials and the collection of resources for use during tutoring will be part of this method-instruction. Opportunities to practice teaching methods can be provided by role-playing.

(3) Resources and materials. Locally-developed or locally-adapted materials, directly related to the curriculum units that tutors teach, are prepared by teachers and/or tutors. In addition to instructional materials, materials to aid in the management of tutoring are also developed

(4) Time and space to tutor. The time provided should not deprive the tutor or tutee of a highly valued activity. The room in which tutoring takes place should contain a booth or carrell for each tutor-tutee pair, so they can work undistracted by others.

(5) Support during tutoring. Support is provided by constant supervision of the tutoring. This supervision should be the responsibility of a teacher who knows the content and methods that the tutors are working on. This support can be provided by the sending teacher or receiving teacher or by a resource teacher or tutoring coordinator.

(6) Regular feedback. Tutors need to know if they are fulfilling their responsibilities towards their tutees. In addition to learning how they themselves can assess tutee progress, an independent assessment of tutee progress by the supervising teacher(s) will be important for several reasons. First, it provides tutors with an assessment of their effectiveness (one that must take into account the progress that could reasonably be expected from each individual tutee). Secondly, it provides teachers with a check on the instruction tutors provide, to ensure its accuracy and effectiveness. Thirdly, the very act of assessment by the supervising teacher indicates to the tutor the importance attached to the tutoring task and its outcomes. In addition

to providing feedback regarding tutee progress, the supervising teacher could regularly comment, formally or informally, on such important facets of tutoring behavior as attendance, punctuality, relationship with tutee, effort, concern, etc.

(7) Reinforcement. Tutoring has its own intrinsic rewards for many students, and with support and feedback these may be sufficient. In some cases additional recognition, praise, or even money can be desirable.

(1) INSTRUCTION IN WHAT TO TEACH	• samples of the kinds of tests that will be used to assess tutee progress • help from the teacher or other tutors in any areas of instruction in which tutor is weak
(2) INSTRUCTION IN HOW TO TEACH	• demonstrations of effective tutoring procedures • opportunities to practice tutoring before meeting the tutee (e.g., by role playing among tutors) • demonstration of use of resources and materials
(3) RESOURCES AND MATERIALS	• for instruction (e.g., manipulative materials, books) • for management (e.g., attendance charts, assessment records)
(4) TIME AND SPACE TO TUTOR	• time in the regular school day • space that is free of distraction such as that provided by a special room with carrells
(5) SUPPORT DURING TUTORING	• a supervisor who can assist in managing the tutees • a supervisor who can help tutors with the content to be taught
(6) REGULAR FEEDBACK	• regarding tutee progress as assessed by teachers • regarding tutors' effectiveness in discharging their responsibilities
(7) REINFORCEMENT	• recognition, praise, privileges may be extended to tutors

Figure 8. Components of a TUTOR SUPPORT SYSTEM

Summary for Chapter IV: A checklist for defensive planning

__ There is a workable plan for keeping everybody well informed of the tutoring schedule--sending and receiving teachers, tutors, tutees, administrators, school guards, bus drivers, parents, aides, volunteers, etc.

__ There is an effective procedure for reporting individual absences by tutors, tutees, teachers, parent aides, volunteers, etc.

__ There is an effective plan for adjusting procedures to accommodate absences.

__ The task that tutors will undertake is known ahead of time, and tutors have time scheduled for preparing the task, and they can obtain help preparing the task.

OR __ The task that tutors will undertake is not known ahead of time, but tutors are competent for all the tasks to which they might be assigned.

__ Space available for tutoring is free of distractions.

__ The tutoring task has variety for students who need variety.

__ There are breaks from tutoring.

__ Activities are regularly planned to recognize the efforts of tutors.

__ After an initial trial of the tutoring role, tutors can resign if tutoring does not suit them (but evaluation data is collected before resignations as well as after resignations).

__ Supervisory teachers keep records of tutee progress and discuss these regularly with tutors.

__ Graphs and charts that make tutee progress clearly visible are employed whenever possible.

__ Receiving teachers in Teacher Aide or Tutorial Service projects provide clear instructions regarding tutor tasks.

__ In Teacher Aide or Tutorial Service projects, a check is made regularly regarding how comfortable the receiving teachers feel with the tutors. Problems are dealt with promptly.

__ The tutoring project receives clear support from teachers and administrators.

CHAPTER V. TUTORING PROJECTS AND TEACHERS

Tutoring is an innovation, involving a new method of teaching. In general, the adoption of an innovation is not a matter of demonstrating that the innovation works or is desirable, but rather it is a process of adjusting the costs and benefits for all those groups and individuals whose support is needed to implement the innovation. That is to say, adoption of an innovation is a complex political process rather than a simple rational process.

> It is commonplace in education to assume that the school is a coordinated, integrated, problem-solving mechanism that, confronted with an innovation, assesses its merits and, if it proves worthwhile, incorporates it. Such is not the case (House, 1974, p. 40).

No projects can succeed if teachers are not in favor of them. Too often teachers are asked "from above" to implement projects that they have had no part in developing. This can be disastrous.

> The teacher does not usually initiate an innovation, but he almost always decides whether he will implement it or, more precisely, the degree to which he will use it. The teacher's power in educational innovation is that he can veto for himself. He is the ultimate consumer (House, 1974, p. 67).

Furthermore, even if a project is implemented, it will not be continued if the demands it places on staff time and energy are unreasonable. Good results alone will not ensure the maintenance of a high-effort program.

With these considerations in mind *it is recommended that teachers whose students will be in tutoring projects should*

(1) *be involved in planning projects,*

(2) *have an opportunity prior to the project to themselves do some tutoring,*

(3) *have professional opportunities associated with the tutoring project, especially in the first few years, and*

(4) *have release time throughout the duration of the project to enable them to plan and coordinate the tutoring and to participate in the on-going evaluation of the project.*

The planning of projects can best be accomplished during paid summer work or released time at the beginning of the school year. Experience in tutoring could be obtained during summer school if the district runs a summer school.

The kinds of professional activities that will assist teachers in creating highly effective projects and enhance their motivation and dedication might include:

- visits to other schools with tutoring projects
- attendance at conferences at which there is to be discussions of tutoring projects
- support for preparing articles for publication describing the tutoring project and its results
- support for presenting papers on tutoring at conferences
- control of a budget for such items as materials or the purchase of workshops or consultant assistance
- the chance to earn in-service credits or college credits for implementing or evaluating tutoring projects

Are such recommendations unrealistic? Consider the costs associated with some other innovations such as computer assisted instruction or the establishment of an elaborately equipped resource center. Then consider the likely effectiveness of these innovations as compared to that of a tutoring project run by highly dedicated, interested, trained teachers, and you may well agree that the time has come to stop running tutoring projects on a shoe-string and give them a thorough trial, backed by resources.

The actual costs associated with tutoring are low; *it is for the professional development of the tutoring staff that funds need to be expended.* The Commission on the Reform of Secondary Education in California (the RISE Commission) strongly recommended that teachers receive college credits for innovation in their own classrooms. Ebersole has promoted widespread use of upper-grade to lower-grade tutoring in elementary schools partly by means of a credit course offered nationwide through LaVerne College, LaVerne, California. Teachers in this course enroll in cluster groups consisting of pairs of teachers whose students will

tutor each other. The teachers receive filmstrip and audiotape orientations, worksheets, record sheets, and they hold regular meetings. Credit is based on verified implementation of meticulously developed tutoring procedures that are applicable to any reading materials.

Whatever methods are used, every effort should be made to provide teachers with release time and professional opportunities so that they can plan and implement effective projects. Tutoring as a method of instruction is too promising to receive less than a full-scale test.

CHAPTER VI. EVALUATING TUTORING PROJECTS

In this chapter, evaluation is described step-by-step, and at each step common problems that have been noted in evaluations of tutoring projects are described. The steps are as follows:

Step 1. Establish the purpose of the evaluation
Step 2. Clarify goals of the tutoring project
Step 3. Develop outcome measures
Step 4. Set up an evaluation design
Step 5. Set up a project-documentation process
Step 6. Implement the evaluation
Step 7. Analyze results
Step 8. Report results to various audiences

Step 1. Establish the purpose of the evaluation

Who cares about the evaluation--and what do they care about?

Sometimes it requires considerable probing to find out why an evaluation is to be conducted and what is to be done with the results. These are important questions to consider, however, as the answers can determine the kind of evaluation activities that are needed.

Who cares?

Sponsors and audiences. To establish the purpose of the evaluation, probe into the past and into the future. Determine who has decided upon an evaluation and for what reasons. If evaluation is required simply because an external funding agency requires it, then the rules, regulations and concerns

of that agency must be primary determiners of at least the minimum kind of evaluation that will be conducted. Their forms and tests, if any, must be incorporated, for example. If the school board, parents or school personnel want the evaluation, then their concerns must be discovered and planned for. The persons who call for--and sometimes pay for--an evaluation can be called the sponsors.

Probe also into the future. Who will receive the results of the evaluation? Who will use the results? These persons can be called the evaluation audience. An important distinction must be made between an in-house audience--local teachers and parents, for example--as opposed to a wider audience beyond the school district. Another important distinction must be made between technical or policy making audiences and practitioners. Practitioners are more likely to be interested in practical details whereas policy makers can be expected to be interested in well-measured outcomes.

What do they care about?

Evaluation questions. There are two major evaluation questions: (1) How can the project be improved? This calls for formative evaluation. (2) How effective is the project in reaching its goals? This calls for summative evaluation. If the sponsors or audience want to make changes in the project in order to improve it, then they need formative evaluation--a close examination of the processes used in the project and testing of alternatives to solve problems. This will be the case if the tutoring project is new--so that it is too early to judge it--or if there is no thought of discontinuing the project. If, on the other hand, sponsors and/or audiences want to decide whether or not to continue the project, they need a summative evaluation that proves how effective or ineffective a project is--which immediately raises the question, "effective or ineffective in comparison with what?"

Be sure to find out what the project's "critical competitor"* is. If there was no project, what would the students be doing during the time they spend in the project? How else might the project's goals be approached? What other project could be set up with the resources devoted to the tutoring project?

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*Michael Scriven's term. Scriven is a noted philosopher who has become involved in educational evaluation and is now one of the most quoted evaluation theorists.

A common mistake is to design an evaluation to show that students learn from tutoring. For example, tutees take reading achievement pretests and posttests. But students learn more, become more competent, the older they get, so that pretests and posttests cannot be used to establish that the tutoring causes the reading gains. Furthermore, even if we assume that tutoring causes the gains, the important question that remains is, "Could tutees have learned more with some other kind of feasible project?"

Take the situation of tutors as another example. Are tutors losing valuable class time by tutoring? Suppose there is a Learning-by-Tutoring project in which an entire math class tutors. One purpose of the evaluation might be to check that tutors were not wasting time teaching others when they should be learning. The evaluation would have to be designed to show how the learning of tutors compares with what they would have learned by remaining in the regular classroom. One of the most common errors in evaluation is to fail to contrast the project with a critical competitor.

Summary. Delve into the past and probe the future in order to find out who cares and what they care about. The concerns of sponsors and audiences and the way they plan to use evaluation results will have a strong influence on evaluation plans. For summative evaluation, know the critical competitor, i.e., feasible alternatives to the tutoring project.

Step 2. Clarify goals of the tutoring project
What is the project supposed to accomplish?

The major problem in defining the goals of tutoring projects is that they seem to benefit so many groups--teachers, tutors, tutees, for example--in so many ways that the goals of the project may appear very numerous. Goals or benefits that have been claimed for tutoring projects were listed at the beginning of Chapter I.

The evaluator's problem is that he/she is unlikely to have the time and resources to measure all goals adequately. A good strategy is to talk to project personnel, evaluation sponsors, and audiences about goals for the project and list all the goals mentioned. Then select a few goals to measure thoroughly by direct measurement (e.g., achievement by achievement tests, student satisfaction by questionnaires and measures of student choices) and other goals to measure less thoroughly by a questionnaire collecting opinions (e.g., opinions regarding discipline, better relationships between students, improved work habits).

An important distinction to make is between goals that are planned for and benefits that are expected to occur. This isn't always an area on which it is easy to obtain agreement. In a Teacher Aide project, for example, is the project run to assist teachers or benefit the students who act as aides? If an aide is dropped the instant he or she presents problems, then it appears the project aims primarily to help teachers and should be evaluated on the basis of the amount of help it renders to teachers. (Aides may learn a lesson about keeping jobs, and if this was intended, it too could be evaluated.)

In Tutorial Service projects the focus will be on tutee learning. Even if it is hoped that tutors learn too, if the project is designed to promote tutee learning--by selecting content on the basis of tutee needs--then tutor learning is a secondary goal if it is a goal at all.

A common mistake is to adopt global, diffuse goals rather than specific goals closely tied to project activities. For example, to look for a general improvement in grades rather than growth in knowledge of the content covered in tutoring is over-optimistic and likely to lead to "no significant differences." Choose immediate goals first, i.e., *measure the immediate impact of the project on the student rather than long-term effects.* If the evaluation shows that an immediate impact occurs, then a search for broader impact might begin.

Step 3. Develop outcome measures

How can the achievement of project goals be assessed?

There are many ways to gather information about the results of a project, i.e., to measure outcomes. Tests may be locally developed or purchased. Interviews and observations may be used. They take up considerable time but can be invaluable. Questionnaires, polls or surveys can gather information from numerous respondents.

Once the goals are specified, the evaluator has to develop "instruments"--such as tests, interview schedules, observation plans--to determine the extent to which goals are achieved. Resources that provide guidance for such activities are listed in Appendix B. These may be helpful in technical aspects of developing outcome measures but bear in mind, too, the credibility of the measures to evaluation sponsors, project personnel and evaluation audiences. If possible make the measures available for inspection by these groups before they are administered.

Although the measurement of such non-cognitive outcomes as attitudes, behavior, and social learning may appear to be far more difficult than measuring achievement, the latter task is not simple.

A *major problem* has been over-reliance on, and misuse of, standardized achievement tests.* There is controversy regarding the value of such tests for the purpose of assessing the effectiveness of instruction--as opposed to their appropriate use in ranking students by current performance. It has been strongly argued that standardized "achievement" tests could be more accurately described as "ability" tests. They are constructed by very much the same procedures as ability tests and generally correlate as highly with ability tests as ability tests do with each other. Even following an excellent instructional program, it is argued, the rank of the students on the test's scale is

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*Perhaps more accurately called "norm-referenced" achievement tests, these are published tests that provide interpretations of scores in terms of percentiles and grade equivalents.

unlikely to show any significant change. This would be particularly true for short projects of less than a year's duration.

Whether or not standardized tests are sensitive to instructional quality is still an open question, but there is general recognition now that grade equivalent scores have been widely misused. For example, in an Annual Evaluation Report on Programs Administered by the U.S. Office of Education, USOE personnel reported problems in current standardized test procedures as follows:

> Many test manufacturers obtain their "norm" data (namely, data on how a nationally representative sample of students perform on the test) during the middle of the academic year, about February. For many purposes including program evaluation, however, norms are desired so that one can gauge their students' standing relative to other students at the beginning and at the end of the school year. To fulfill this need the manufacturers usually create "synthetic" norms by drawing a smoothed curve through the average or median scores for consecutive grade levels. This curve is then assumed to represent the growth throughout the academic year for a typical or average student. However, students do not grow according to this kind of curve. They may forget a great deal over the summer and may learn more during some periods of the year than others. Consequently, this smoothing procedure introduces systematic artifacts which can produce some of the following results depending upon the grade level involved: (a) project students can show better than month for month gains yet never catch up with their more advantaged peers; (b) project students are virtually precluded from showing month for month gains or better since the typical or average student only gains two-thirds of a month per month. In addition, some test publishers break the nine month academic year up into three equal segments with all of the growth occurring between segments. For example, starting with September 1st as the beginning of the school year, three months of growth would occur between November 30th and December 1st and another three months of growth would occur between February 28 and March 1st. As a result of these kinds of synthetic norms, a program that administers its pre-test late in the Fall and then post-tests early in the Spring will show more month per month growth than a program that tests early in the Fall and late in the Spring, even though the latter program might be considerably more effective than the former. Finally, the use of grade equivalent scores, rather than standard scores or percentiles, was shown to systematically distort the amount of growth even when real norms were available for the time period under consideration. As a result projects can be judged effective and worthy of dissemination when they aren't and project participants can be judged as catching up with their more privileged counterparts when they aren't. Or alternatively, on occasion effective projects can be rejected as being ineffective (pp. 73-74).

The following recommendations are made regarding the use of standardized tests:

(1) Do not plan to judge "growth" on the basis of the standardized test unless you can administer the test at the same times of year (for pretest and posttest) that were used for the "norm" population. Scores in between these administration times are interpolations and may be distorted upwards or downwards.

(2) Work with standard scores--not percentiles or grade equivalents--for aggregating data, computing means, etc.

(3) Do not rely exclusively on a standardized test. Measure also the students' achievement on the content that was directly taught in the tutoring project with a test developed especially for that purpose.

For example, Snapp, Oakland and Williams (1972) evaluated an upper grade to lower grade reading project using both a "Word Recognition Test" developed especially from materials used during tutoring and also a standardized test (the Metropolitan Achievement Test: MAT). After 8 weeks, tutees showed significant gains over the control group on the Word Recognition Test but not on the MAT. Tutors, tested only on the MAT, showed no significant gains over controls. Had the Word Recognition Test not been used, the tutoring would have been seen as without positive results. The question would then have been, Did tutors and tutees learn nothing? or Did what they learn simply not show up on the test? Since the Word Recognition Test, based on the project materials, did show positive results, the latter interpretation could be chosen for tutees--they did learn from the tutoring, but the standardized achievement test was not sensitive to the amount or kind of learning that occurred.

Step 4. Set up an evaluation design

Who will be measured and when?

The evaluation must be designed to answer the questions of concern to sponsors and audiences, including project personnel (see Step 1). We shall consider here summative evaluations in which the concern is to evaluate the effectiveness of the project.

The most glaring deficiency in most evaluations is the lack of measurements made on an appropriate comparison group. If at all possible, some students should be randomly assigned to a tutoring project and others to a feasible alternative project with the same goals. Then a comparison of results at the end of the project can answer the question as to whether the tutoring is better than its feasible alternative, its "critical competitor."

For example:

- Randomly assign some tutees to receive remedial instruction in reading with a resource teacher and others to receive tutoring in reading. (Make sure tutors and resource teachers teach the same kind of content, and then measure that specific content as well as measuring general reading achievement.) This will answer the question as to what is more effective--instruction from a resource teacher or being tutored.

- Randomly assign some students to a math class that involves regular tutoring to promote learning, and other students to a math class taught by the same teacher but that does not involve tutoring. Results will provide strong evidence as to whether, for this kind of student, a class that requires tutoring is more effective than a class that does not require tutoring.

There is a myth abroad that random assignment cannot be employed in real school programs. If its importance is recognized, we suspect, a way can be found to employ random assignment. Consequently, *if the evaluation of the tutoring project is important, find a way to employ random assignment of students to tutoring and to an alternative--and measure both the students in tutoring and in the alternative.*

The following strategies may be helpful in establishing randomly assigned control groups:

Delayed tutoring for some students. For example, perhaps 60 students are going to be involved in a tutoring project as a tutor or tutee. Announce that about half the students must wait six weeks before starting on the project. Randomly select half the students to begin the tutoring immediately. Measure all students at the end of six weeks. Results from the random group that did not take part in the tutoring indicate how those who did would have achieved without tutoring. Contrast this with the results of those who did take part in the tutoring.

This strategy depends upon (1) the random assignment of students for whom tutoring is delayed, and (2) the possibility of delaying tutoring for a period of time long enough for tutoring to have shown some effects. Interpretation is limited to the effectiveness of tutoring during the time period observed.

A "scarce resources" situation. If there is more demand for tutoring than can be accommodated at one time, randomly assign students who can or cannot be in the project. Then measure on important outcomes those in the project and those who could not be accommodated.

Working with the borderline group when a project is designed for those most in need. (Details of this method are provided in Fitz-Gibbon and Morris, 1975, "How to Select a Design, Display and Interpret Results.") Suppose a tutoring project is run for those most in need. These students are identified in some way but always, around the cut-off score, there is a group of students who are "borderline." Test error, or lack of agreement among teachers, means that among some students it is difficult to decide which ones should be included, which excluded. List all the students in a "borderline" group and randomly assign some of them to tutoring, others to some other feasible alternative (or to no particular project). Measure borderline students who did get tutoring and those who didn't.

The comparison answers an important question as to how effective tutoring is for borderline students. If it is very effective, this implies tutoring should be expanded to include more such students. If it is not effective, an evaluation must be made of the effectiveness of tutoring for the most-in-need, non-borderline students. (Regression discontinuity analysis or special regression analysis can be employed. See USOE, 1975.)

The mid-year switch. If a tutoring project lasts a semester (half a year), identify at the beginning of the year all the students who will be in the tutoring project either for the first or second semester. If possible assign students randomly to first or second semester tutoring. If random assignment is not possible, even for a sub-group, at least measure all the students at the beginning of the year, in the middle of the year when half have been in the tutoring project, and then again measure all students at the end of the year.

Delayed summative evaluation. A valuable strategy if you can obtain agreement to it, is to delay summative evaluation. Spend, say, a year conducting formative evaluation and during this time lay the groundwork for summative evaluation. Obtaining a feasible plan for randomly constituted tutoring and control groups is the most crucial aspect of this groundwork. The year of formative evaluation also permits careful development, tryout and revision of outcome measures.

The control group's program

The group that is randomly assigned not to get tutoring is the "control group." It was urged above that the control group should receive a feasible alternative, a critical competitor. If so, this provides an answer to whether tutoring is better than the alternative. The control group can be called a "competing-treatment" control group.

If the control group receives no particular program, then it constitutes a "baseline" or "no-treatment" control group. Such a control group is still exceedingly valuable. If gains look poor, they might have been worse without the project--a control group will show if this was the case. A frequent situation is that gains look about normal. Was the project effective or not? With a control group, even a small increase in effectiveness can often be detected. (Many persons have argued that small, steady increases in effectiveness are both the most likely and most credible kind of gains; large jumps are suspicious and probably will not be maintained.) The important point is that *you have a better chance of detecting and demonstrating project effects with a control group than without.*

If a control group cannot be randomly constituted, find a group as similar as possible to the tutoring group and measure both groups. Make measurements both before and after the tutoring project. (When not formed by random assignment, a "control group" is often called a "comparison" group or a "non-equivalent" control group.)

Long term effects

If possible, it is highly desirable to examine long term effects of a program. Plan to obtain at least one retention test as well as an immediate posttest. This involves keeping track of both the tutored students and comparison or control group students for some months after the project, then re-measuring them on project goals.

Step 5. Set up a project-documentation process
What actually happens in the project?

A project is not going to have a measurable effect on students who don't spend much time in it. If students are absent or if the project never takes place, not much can be expected. For example, it might be best to drop from the analysis students who have been absent more than 50 percent of the time. To do this, an easily accessible record must be kept on participation in tutoring and control groups. As an example, one tutoring group might meet last period in the school day. If shortened days and assemblies cause this period to be constantly cancelled, account will need to be taken of the situation in interpreting the results.

In summary, records must be kept of who participated, and how much, in the tutoring project and in its alternative.

Often project documentation is also needed to describe the project so that it can be replicated. *A common error in evaluations is a lack of evidence regarding the project's implementation and lack of consideration of time as a factor in achievement.*

Step 6. Implement the evaluation design

First pretest, make sure the project takes p`ace and is documented, and then posttest. If possible, give a retention test.

A common problem is poor procedures for obtaining measurements. *The tutoring group and comparison groups should be tested together if at all possible.* Obtain use of a cafeteria or auditorium, enlist the assistance of the principal, a vice principal or counselor in monitoring the testing. Establish a serious, no-nonsense testing atmosphere. Give clear instructions and allow exactly the time allotted for the test. If a published test is used, follow administration instructions carefully. Be sure that students' correct names are on the papers, clear, legible in full and with the last name underlined or distinguished by capitals.

In administering questionnaires, it is frequently desirable to put the questions on tape and pass out only answer sheets. Students listen to the questions, then receive time to respond on the answer sheet before the next question is played on the tape. Advantages of this method are the following:

- Students who cannot read can answer the questionnaire.
- The administration is standardized. This allows students to be tested in small groups. All hear the questions read in exactly the same way.
- All students work through the questionnaire together. This avoids the problem of students who finish early wanting to discuss the questionnaire.

Step 7. Analyze results

What do the data reveal?

Analyze results to answer the questions the evaluation was designed to answer. In addition, you may wish to explore the data to see if there are interesting or important relationships. For example, is it the students whom teachers find most difficult in regular classes who are the most keen to continue tutoring? If so, this has implications for future planning of tutoring projects. Which tutors were the most effective teachers? Knowing this might enable some examination to be made of their methods--to help in the training of future tutors.

Step 8. Report results to various audiences

An appropriate table of contents for a full report is shown in Figure 9. Circulation of such reports between schools which are running tutoring projects can help to disseminate effective practices. Announcements of such reports or summaries should be sent to journals that are read by teachers and educational researchers. In addition, entire reports can be submitted to the Educational Resources Information Center consisting of a central location at the National Institute of Education, Washington D.C. 20208 and 16 clearinghouses, each of which focuses on a specific field of education. Through ERIC, the reports become available at libraries across the country and are disseminated through the ERIC Document Reproduction Service.

As more schools try various kinds of tutoring projects, we shall see if Herbert Thelen's perception still holds true:

> . . . the educators (almost to a man) feel that tutoring works. I can think of no other innovation which has been so consistently perceived as successful (Thelen, 1969, p. 230).

I. SUMMARY

II. BACKGROUND INFORMATION CONCERNING THE PROGRAM
- A. Origin of the program
- B. Goals of the program
- C. Characteristics of the program (materials and activities)
- D. Students involved in the program
- E. Faculty and others involved in the program

III. DESCRIPTION OF THE EVALUATION STUDY
- A. Purposes of the evaluation
- B. Evaluation design(s)
- C. Outcome measures
  1. Instruments used
  2. Data collection procedures
- D. Documentation measures
  1. Instruments used
  2. Data collection procedures

IV. RESULTS
- A. Results of documentation measurements
- B. Results of outcome measurements
- C. Informal results

V. DISCUSSION OF RESULTS
- A. How good were the results of the program?
- B. How certain is it that the program caused the results?

VI. COSTS AND BENEFITS
- A. Costs associated with the program
  1. Dollar costs
  2. Non-dollar costs
- B. Benefits associated with the program
  1. Dollar benefits
  2. Non-dollar benefits

VII. CONCLUSIONS AND RECOMMENDATIONS
- A. Conclusions
- B. Recommendations regarding the program
- C. Recommendations concerning subsequent evaluation of the program

Figure 9. Table of Contents for a full evaluation report

APPENDICES

Planning Summary Sheet
(prepare one for each project)

Title of Project: _____

(List names and phone numbers of those involved)

Schools: _____

Teachers: _____

Administrators: _____

Parents: _____

Community Volunteers: _____

District Personnel: _____

Sources and amounts of project funds: _____

Constraints: _____

_____

Kind of project:

- ☐ Teacher Aide
- ☐ Tutorial Service
- ☐ Learning-by-Tutoring
- ☐ Other: _____

Subject: ☐ reading ☐ math ☐ other: _____

Project characteristics: (check one box for each item)

1. ☐ cross-school or ☐ within-school
2. ☐ during regular school year or ☐ summer session
3. ☐ programmed materials
   ☐ purchased, structured materials
   ☐ locally made materials
   ☐ other: _____

4a. Tutors' grade levels (circle):

K	1	2	3	4	5	6	7	8	9	10	11	12	college	adult

4b. Number of tutors expected at each grade level:

(continued)

4. Expected percentage of tutors who will participate because they are:

volunteers _____%

encouraged _____%

assigned _____%

5a. Will tutors be

☐ predominantly low achieving?

☐ predominantly average in achievement?

☐ predominantly high achieving?

☐ representative of all achievement levels?

5b. Will factors other than achievement influence tutor selection?

☐ yes ☐ no

If yes, which factors? (Check all that apply)

☐ strong leadership qualities or self-confidence

☐ weak leadership qualities or self-confidence

☐ good attendance record

☐ poor attendance record

☐ recommended by teachers as good students

☐ reported by teachers to be difficult students

6. For tutors: ☐ pull-out or ☐ intact-class

7a. Tutees grade levels (circle): | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

7b. Number of tutees expected at each grade level:

8. Expected percentage of tutees who will participate because they are:

volunteers _____%

encouraged _____%

assigned _____%

9a. Will tutees be

☐ predominantly low achieving?

☐ predominantly average in achievement?

☐ predominantly high achieving?

☐ representative of all achievement levels?

9b. Will factors other than achievement influence tutee selection?

☐ yes ☐ no

If yes, which factors? (check all that apply)

☐ personality characteristics

☐ good attendance record

☐ poor attendance record

☐ recommended by teachers as good students

☐ reported by teachers to be difficult students

10. For tutees: ☐ pull-out or ☐ intact-class

The tutoring sessions:

11. Time of day?_____

☐ before school

☐ during school

☐ after school

☐ evenings

☐ weekends

12. Number of days per week? (circle) 1 2 3 4 5

13. Usual number of minutes per tutoring session? _____ minutes

14. Tutor's task?

☐ Tutors encouraged to do academic work with tutee throughout tutoring lesson

☐ Tutors encouraged to spend most of lesson on academic work but to include some non-academic activities

☐ Tutors encouraged to spend only about half the lesson on academic work

☐ Tutors encouraged to spend less than half the lesson on academic work

☐ Tutors to decide for themselves how to spend the lesson time

The Tutor Support System

How will each of the following be provided for tutors?

15. Instruction in what to teach_____

_____

16. Instruction in how to teach_____

17. Resources and materials as needed each day_____

_____

18. Transportation if needed_____

_____

19. Support during tutoring (who supervises?)_____

_____

20. Regular feedback regarding effort and effectiveness_____

_____

(continued)

21. Reinforcements (rewards)

- ☐ course credit
- ☐ payment: amount_____ source of funds_____
- ☐ grades
- ☐ privileges (describe:_____)
- ☐ special recognition (describe:_____)
- ☐ opportunity for employment as tutor_____
- ☐ other_____

Provisions for teachers

22. Attach a Task Assignment Sheet (see p. 30 for an example).
23. Indicate here when, each month, teachers are to accomplish these various recurrent tasks:

	Sending teacher	Receiving teacher
Joint planning		
Individual planning		
Assessment of tutors		
Assessment of tutees		
Supervision of sessions		

Resources for Evaluation

U.S. Department of HEW, Office of Education (USOE). A practical guide to measuring project impact on student achievement. Washington: U.S. Government Printing Office, 1975.

Prepared by Research Management Corporation for USOE, this 116-page booklet lists 12 common mistakes, "hazards," in the evaluation of educational programs. The reader is then guided in the selection of an appropriate evaluation design and its implementation.

Fitz-Gibbon, C. T., & Morris, L. L. The CSE Summative Evaluation KIT. Los Angeles: Center for the Study of Evaluation, 1975.

This is a set of resources for persons who are evaluating school projects or programs. In the currently available field-test edition there is:

- a cassette tape and "look-along" booklet. These introduce the field of evaluation and have been found useful in in-service sessions.
- step-by-step guides to evaluation. These provide a start-to-finish book and worksheets for conducting evaluations.
- a "Measurement Wall Chart." This chart summarizes things to consider when selecting, administering and interpreting achievement tests, attitude tests, questionnaires, interviews and observations.
- a series of "How to" books for reference as needed:
  - --How to select a design, display and interpret results
  - --How to randomize
  - --How to articulate goals, outcomes and objectives
  - --How to measure achievement
  - --How to measure attitudes
  - --How to document the program
  - --How to present an evaluation report
  - --How to calculate statistics and also understand them

Reading About Tutoring

The following CSE Reports on Tutoring are available from the Center for the Study of Evaluation, UCLA Graduate School of Education, 145 Moore Hall, Los Angeles, California 90024.

A. The Learning-Tutoring Cycle: An Overview

An overview of the entire project and recommendations for actions which are designed to put the ideas of this study to the test--to see if the Learning-Tutoring Cycle can indeed significantly improve the educational attainment of disadvantaged students.

#1. Setting up and Evaluating Tutoring Projects *

A listing and explanation of decisions that must be made at each school site when a tutoring project is started. Pros and cons for each decision are presented for discussion. A step-by-step outline of evaluation activities is included.

#2. Tutoring and ESEA Title I

A guide to setting up a tutoring project that conforms to Title I requirements and benefits both secondary and elementary school students. Of particular interest to Title I planners, parents, teachers and district personnel.

#3. A Survey of Tutoring Projects

A nationwide survey of tutoring projects and a description of site visits to some existing tutoring projects.

#4. Tutoring: Some New Ideas

Description of a specific approach to tutoring in which the focus is on the learning and motivation of the tutors. Included also are ideas on expansion of tutoring to provide significant educational alternatives, as in a School-Within-A-School project. The reactions of teachers to the ideas are documented.

#5. An Analysis of the Literature on Cross-Age Tutoring

A literature review that examines both laboratory studies and in-school programs to identify important issues in tutoring.

#6. Tutoring and Social Psychology: A Theoretical Analysis

An examination of tutoring from the perspective of social psychology. Presents operationalized hypotheses that researchers might test.

*This report you are presently reading

These two highly recommended reports are available from the National Institute of Education, 1200 - 19th Street, NW, Washington, D.C. 20208.

Klaus, D. J. Patterns of peer tutoring. Final Report. National Institute of Education Project No. 4-0945, 1975.

This 109-page report describes several tutoring projects and examines much of the existing literature on tutoring. In clear narrative style, Klaus describes the history of tutoring and discusses "structured peer tutoring" (materials-based projects) and flexible peer tutoring. The latter type is expected to produce more benefits for the tutors. Procedures for setting up programs are discussed.

Bloom, S. Peer and cross-age tutoring in the schools

Building on a set of principles of learning, this 62-page book emphasizes the use of tutoring as a means of providing individualized instruction to supplement regular classroom instruction. The extensive experience of the author as a reading teacher, supervisor and consultant makes this an important and practical reference. Includes an annotated bibliography and a list of published tutoring manuals and programmed materials.

Additional reading:

Allen, V., & Feldman, R. S. Children as teachers: Theory and research on tutoring. New York: Academic Press, 1976.

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